

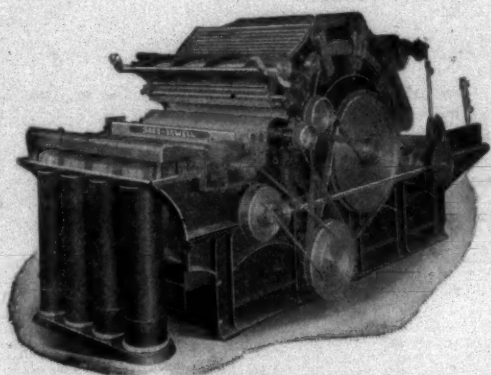
# SOUTHERN TEXTILE BULLETIN

VOL. X

CHARLOTTE, N. C., DECEMBER 2, 1915

NUMBER 14

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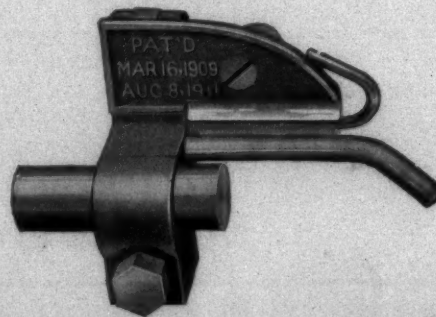
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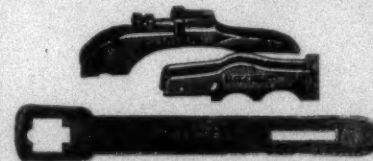
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# SOUTHERN TEXTILE BULLETIN

VOLUME X

CHARLOTTE, N. C., DECEMBER 2, 1915

NUMBER 14

## *Use and Abuse of Roller Bearings*

It is essential to keep the rolling members of ball and roller bearings in alignment. In ball bearings where the balls are inserted in grooved races, they are compelled to keep their straight path in the center of the groove. In roller bearings side shoulders on the races and a caging for the rollers are provided.

Adjustable bearings, whether they are ball or roller bearings, are not practical. In mounting new bearings of this type, the bearings will be at the mercy of the man who has to mount them, as the proper adjustment depends on the fineness of the feeling of his hands. Therefore, it is to be expected that sometimes the bearings will be mounted too tight or too loose. In the former instance, the rolling members will be pressed tight between the races, which will cause an overload and increase of friction, noisy running and quick wear of the bearings. If the rolling members are adjusted too loosely, they will rattle, and in roller bearings the rollers will lose their alignment and will wedge, thereby producing great end thrust. The idea that worn bearings may be adjusted is absolutely wrong, and even detrimental. The races and also the rolling members never wear off equally at all points, as the bearing is not loaded equally at all its portions. By tightening up a worn bearing in order to eliminate the play, some of the rolling members will be jammed between the sound portions of the races, while the others will be loose between the worn portions. Furthermore, the rolling members will be pressed out of alignment and also will have to run over uneven parts of the raceway. This condition will very soon lead to an entire destruction of the bearing, besides giving trouble during its operation.

In the earlier stage of ball and roller bearing manufacture, the races and rolling members were made of case-hardened material. Later on ball bearing makers, compelled by the steadily increasing task on ball and roller bearings brought about by the rapid development of the automobile industry, searched for a bearing material of higher quality. They experimented for some time with crucible tool steel, but such steels did not meet the requirements, as some were too brittle and not elastic enough after heat treatment, and others could not be hardened sufficiently uniform

over the entire surface. Further experiments developed the chrome alloy steel which now is used by almost all the ball bearings and also by some roller bearing manufacturers. The ingredients of this steel are from .9 to 1.2 per cent carbon, 1.3 to 1.6 per cent chromium, .25 to .35 per cent manganese, and from .19 to .24 per cent, silicon. Phosphorus and sulphur are detrimental and should be eliminated entirely, but if this cannot be done, the amount should not exceed .02 per cent.

Bearing races of chrome alloy steel are hardened by heating them up in a bath of boric chloride ( $BaCl_2$ ) and potassium chloride ( $KCl$ ), which prevents an overheating of the skin. . . . The heated races are quenched in oil and afterwards tempered in a water-cooled oil bath. The hardening of steel balls is very similar, except that the balls are heated up in specially designed automatic operating furnaces. After hardening, the races and also the steel balls have to pass a number of inspections concerning the degree of hardness and elasticity. The high strain to which radical ball bearings and roller bearings in an automobile are subject requires that they be made of a material of the highest quality, and therefore the use of case-hardened material should be avoided. In such material there is always a certain change of structure below the hard surface. If the material is only skin-hardened, that is, the hard shell is very thin, then continued load stresses will soon cause a flaking of the hard surface, resulting from a loosening of the soft portions of the material from the harder ones. This flaking once started, will increase more and more, and will finally affect the entire load-carrying surface of the bearing. Furthermore, a bearing of a given size made of case-hardened material is far inferior in load-carrying capacity to a bearing made of chrome alloy steel, and although the former may be made interchangeable with the latter in dimensions, it surely will not be interchangeable as far as carrying capacity is concerned.

In order to make ball and roller bearings of different makes interchangeable, they must be made to standard sizes in inside diameter, outside diameter and width, and also the tolerance for these three principal dimensions should be as

small as possible. Of course it has to be realized that working to fine limits means a high cost of production, and naturally tolerances and the cost of production have to be held to reasonable limits. . . .

The inner and outer faces of the bearings are ground, and must be absolutely parallel when the bearing is assembled. The sides of the races are also ground, and must be absolutely at right angles with the inner and outer faces in order to secure a proper seat on the shoulders of the shaft, and in the housing. Raceways and rolling members are ground, and should be highly polished, because the smoother the surface the less friction will be produced.

The balls or rollers should be absolutely uniform in size and shape. In ball bearings, a difference in the size of balls will cause the larger balls—when passing the zone of the highest load pressure—to take more than their share of the load, and they, consequently, will have to withstand a greater deformation than the smaller balls, while the latter in some instances will be compelled to slide. This condition will result in a breaking or flanking off of portions of the raceways and balls. The defect will show up stronger and quicker in bearings operating at higher speeds than in bearings running at slow speeds, as at high speeds the load is applied upon the balls in much quicker succession than at slower speeds, and also because the safe load of a ball decreases as the speed increases. As a matter of fact, steel balls, as used for high-class ball bearings, are guaranteed to be absolutely spherical, and made uniform in size to a tolerance of .001 inch, which is accomplished by the use of special gauging machines. In order to secure absolute uniformity of the size of the balls in a ball bearing, some manufacturers have specially designed gauging machines to select the balls for every individual ball bearing.

In roller bearings with rollers of unequal size, the large rollers will be affected in about the same way as the larger balls in ball bearings, while the smaller rollers, running more or less loosely between their races, will lose their alignment and wedge, that is, the rollers will roll obliquely until pressed against the side shoulders of the races, then return suddenly to their normal position, and will again roll sideways,

and so forth. This wedging of the rollers will produce a considerable amount of end thrust and friction, which will cause quick wear of rollers and races. The same wedging will occur in case the rollers are not exactly of the same shape, that is, not exactly cylindrical in straight roller bearings, and not exactly of the same taper in taper roller bearings. It is quite difficult to grind rollers absolutely uniform in size and shape, and therefore, in regard to safe loads at high speeds, a higher factor of safety should be observed for roller bearings than for ball bearings.

There are a number of makes of ball and roller bearings on the market, and their manufacturers furnish catalogs and tables showing the dimensions and permissible carrying capacities of the different sizes and types of bearings. All makes of ball bearings are standardized in regard to inside diameter, outside diameter and width, and therefore are interchangeable as far as these three dimensions are concerned. This interchangeability is sometimes offset by the difference in carrying capacity between different makes, due to a difference in

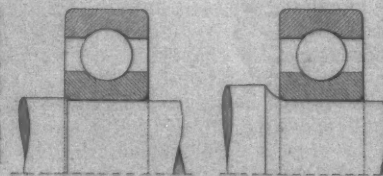


Fig. 1

Fig. 2

the number and size of balls, as—if other things being equal—the product of the square of ball diameter and the number of balls is the principal factor to determine the carrying capacity. Another cause for a decrease in carrying capacity is the use of inferior bearing material, for instance, case-hardened material. Therefore, when replacing bearings of a certain make with bearings of another make of the same size, attention should be paid to the fact that there should be no remarkable difference in the permissible carrying capacity between the two makes, otherwise it may easily happen that trouble will result when a certain size and make of bearing, originally selected for certain load and speed conditions, is replaced by the same size of bearing of another



make, but of a lower carrying capacity. This also applies to roller bearings. Then cases occur where bearings, which were originally selected for a certain purpose, will become overloaded on account of changes in load and speed due to a change in the gear ratios or the arrangement of the power transmitting gears (transmission or differential gears, direct wheel drives, chain drives, etc.), or also a change in the distances between the bearings and the power or load transmitting points. Other overloads upon the bearings may be produced by increasing the amount of driving power or the speed of the driving shaft without changing the other parts of the machine. All such changes should be carefully considered and taken up with the ball or roller bearing maker.

It is a well-known rule in the mounting of radial ball bearings that the inner race should have a tight fit on the shaft, while the outer race should be placed in the housing with a sliding or sucking fit. The principal reason for this

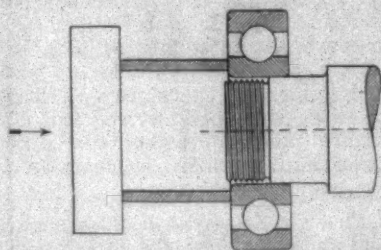


Fig. 3

rule is, that in most cases the inner race is rotating while the outer race is stationary in its housing, therefore, a tight fit will prevent a movement between the inner race and the shaft, while the sliding or sucking fit of the outer race will allow the same to creep slowly, and bring different parts of it under the zone of the load. A press fit always results in expansion of the inner race, and there is always some doubt as to what extent the inner race can be expanded without cracking, it, or straining the material too much, decreasing the carrying capacity, or, a very vital point, pressing the balls tightly between the raceways. Such pressure on the balls results in an elastic deformation of them, and is very likely to expand the outer race also. A ball bearing operating under such conditions will be noisy and wear out quickly.

Admitting these obvious facts, the races should be made of a material elastic enough to stand slight expansion without producing a strain in its structure, and the races and balls should be assembled with a slight radial shake in order to provide for the expansion of the inner race. There are, however, certain limits to these conditions. Practical experience has taught that the press fit, or, in other words, the expansion of the inner race, should not exceed .0005 inch to .001 inch, according to the size of the bearing.

The outer race should never have a press fit in the housing, but it is just as bad to go to the opposite extreme and have the fit too loose. As agreed to by the ball bearing

manufacturers, the outside diameter of ball bearings is ground from standard to a minus limit. Accordingly the outer race diameter will always be a few ten-thousandths under standard, but never above

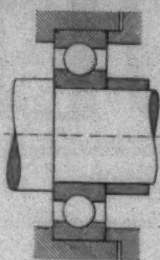


Fig. 4

standard. But since there is considerable difference in the limits actually used by the different ball bearing makers for the outer race diameter, it is quite difficult to recommend positive figures from which to obtain a proper sliding fit for the outer race in its housing for all makes of ball bearings. The best way, naturally, would be to fit every individual ball bearing in its housing, but in order to secure interchangeability, a sufficiently loose fit will be obtained if the bore in the housing be made from 0.0003 inch to 0.0006 inch larger than the standard outside diameter of the bearing.

The same principal mounting rule applies to roller bearings, but as the tolerances usually used for inside and outside diameter are not standardized, but vary to a great extent, for the different makes, it is impossible to recommend comprehensive figures for securing a proper seat of the races on shaft and in

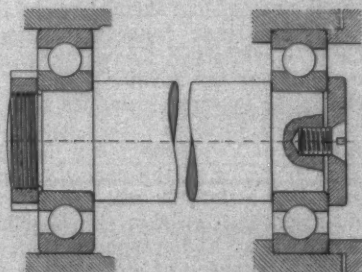


Fig. 5

the housing.

If a ball or roller bearing is to be mounted in a soft metal housing, for instance, aluminum alloy, it is a good practice to force a bushing of bronze or steel into the soft metal housing, and to mount the bearing with a sucking fit into this bushing. This method secures a proper seat for the bearing, as it can creep inside the bushing without working itself loose, which would be the case if the bearing were placed in the soft metal housing.

In order to obtain a full seat of the bearing, which is essential for the proper application and distribution of the load pressure, the bearing seat on the shaft and in the housing must be absolutely cylindrical, that is, it must not be tapered or oval. If the area of contact

between the inner race and the shaft, or between the outer race and the housing, is insufficient, it will happen that the pressure per unit area upon the material of the shaft

and housing will become too large, then the material of the shaft will be depressed and the bearing will become loose.

If the shaft is mounted on two or more bearings, care should be taken that the shaft and the bearing housings are in alignment, otherwise angular pressure upon the bearings will be produced, which probably will cause an overload and quick wear of the races.

In case the bearing is mounted against a shoulder on the shaft or in the housing such shoulders should be sufficiently high to give a good support to the bearing. If, for instance, the shoulders on the shaft are too small, the inner race of the bearing when pressed against the

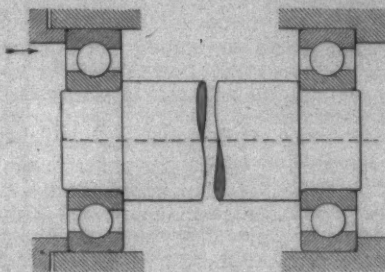


Fig. 6

shoulder (See Fig. 1) will be forced to slip over it, thus expanding the inner race and producing angular pressure on the balls. The fillet left at the point where the shaft is decreased in diameter, should have the same, or a smaller radius, than the standardized radius of the chamber of the bearing races. If the radius of the fillet on the shaft is larger than the radius of the chamber on the bearing race, the latter (See Fig. 2) will not come in

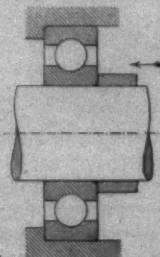


Fig. 7

contact with the shoulder on the shaft, but probably will be expanded, as referred to in Fig. 1.

Each bearing, previous to mounting it, should be thoroughly washed out in clean gasoline in order to remove any foreign matter which may have entered the bearing by careless handling. Care should also be taken that the inside of the housings and the shaft are absolutely clean. In case a press fit is recommended for the inner race, the bearing should be placed in a thin oil free from acid (mineral oil) and heated to about 140 degrees Fahr. for about five minutes, thereby slightly expanding the inner race and thus facilitating the mounting on the shaft. After the bearing has cooled off, it may be placed into its housing.

When mounting the inner race on the shaft, care should be taken to avoid striking hammer blows against the outer race or against the balls and retainer. The best

and simplest way for driving the inner race on the shaft is to use a tube (See Fig. 3), with a piece of wood laid across the free end. Light hammer blows upon the wood will produce an all around equal pressure against the inner race.

If the shaft is carried by only one radial bearing, it can be locked sidewise in both races (Fig. 4). If two or more radial bearings are located on the same shaft (Fig. 5), and the housings are locally stationary, that is, cannot adjust themselves to the bearings, only one of

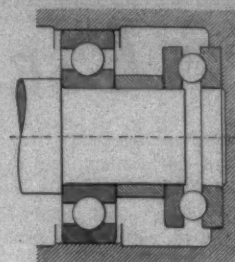


Fig. 8

the bearings should be locked laterally in both races, while of the other bearings, only one of the races—preferably the rotating race—should be locked sideways. The other races must be laterally free, so that these bearings can automatically adjust themselves to the bearing made tight in both races. Should all the bearings be jammed laterally in both races, it is to be expected that, due to the inaccuracies of the housing parts, all of these bearings would be under an axial pressure or strain, which consequently would have a detrimental effect upon the proper operation. To have the bearings jammed diagonally is also incorrect and should be avoided, as, for instance (See Fig. 6), a tightening of the housing cap, or as shown in Fig. 7, a pressure produced by a nut or tube against the inner race in the direction of the indicated arrows, will produce an axial pressure on the balls. This method of arrangement, however, will be used for ball bearings of the combined radial and thrust type, and for taper roller bearings, these types being adjustable. As already stated in an earlier section of this article, however, there is always a possibility that these bearings will be adjusted too tight or too loose, either one having a bad effect on the bearings. If a single-acting thrust ball bearing (Fig. 8) or a double acting thrust ball bearing is located on the same shaft with radial ball bearings and all are mounted in the same housing, or in housings which cannot adjust themselves to the bearings, one race each of the radial bearings must be laterally free, so that the entire axial load can be received by the thrust bearing.

Ball and roller bearings must be carefully protected from water, acids, alkalis and abrasives, as every one of these substances will shorten the life of the bearings. To prevent such foreign matter from entering the bearing from the outside, the housings must be closed tightly. The usual method of packing bearing housings consists of providing grooves (Figs. 9 and 10) in the housing or housing lid at the places where the shaft passes through and



pressing gaskets made of felt through them or filling them up with a stiff grease. In bearing housings which are exposed to water or dust, it is advisable to arrange two or more of these grooves alongside of each other or to use an additional packing in the form of leather washer, which, when slipped tightly over the shaft, presses itself against the housing.

As bearing failures very often result from improper lubrication or the use of impure lubricants, the question of bearing lubrication needs very close attention and consideration. It is an old rule, and it cannot be repeated too often, that ball and roller bearing lubricants must not contain any water, acid, alkali or any kind of abrasive. Such substances, whether they were originally contained in the lubricant as impurities or entered the lubricant later on, will greatly affect the highly polished surfaces of races, balls and rollers.

The water will oxidize the steel and create rust, which will produce pits, especially on the high polished raceways and rolling members, while the rust itself will flake off and mix with the lubricant and will act as an abrasive between races, rolling members and cage. Acids and alkalis will cause an etching of the polished surfaces, making them uneven and rough, and consequently the bearing will wear and will soon be unfit for further service. Abrasives, such as sand, dirt, emery or carborundum metal flakes, filings, etc., when mixed with the lubricant, will be carried to the surfaces of contact between the races, rolling members and cage, and at these places will have a grinding effect, thus causing quick wear. There are a number of possibilities for such abrasives getting into the lubricant. Housing castings for transmission and differential gear cases, if not carefully cleaned, may have sand sticking to the inside corners, which will loosen and mix with the lubricant. If the housings are not tight, all kinds of dirt in the form of dust will enter, and the lubricant will carry this dirt into the bearings. When assembling the gears and shafts and mounting

struction of the high polished surface. Instances are known where emery, carborundum or other abrasives mixed with grease were used for smoothing rough gears, which substance, of course, also entered the bearings. As it is impossible to clean out bearings already mounted and housed, this grinding compound remained in the bearings, and very quickly ground off the raceways and rolling members. This practice is bad, and as it is most detrimental to the bearings, the user of it will have to blame himself for the consequences.

A simple experiment in order to find out if the lubricant contains corroding substances is to cover a steel surface with the lubricant, and expose it to the sunlight for about two to three weeks. If the lubricant contains acids the steel surface will show etchings, while water will oxidize the steel and the surface

will show rust pits. This experiment should be made with a highly polished steel surface and a roughly ground surface, as the effect of acid shows up best on a polished surface, while the rusting can be observed better on a rough surface.

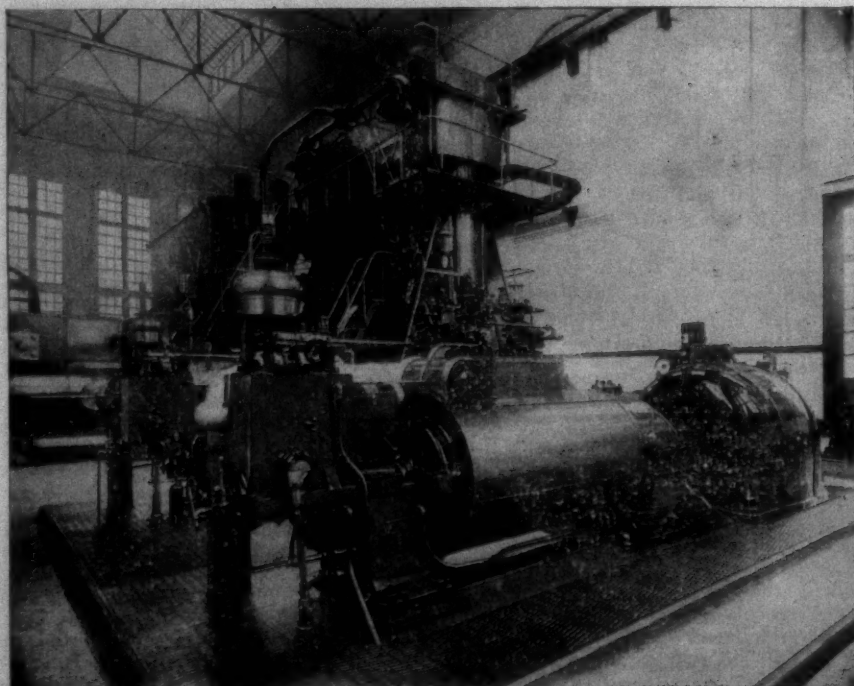
Pure mineral oils and mineral greases have been found most suitable for ball and roller bearings or automobile lubricant, but their qualification for this purpose depends not only on the quality of the oils, but also on the method of compounding. As it is seldom possible for the user to determine upon these points, he must rely largely upon the reputation of the manufacturers.

Speaking specially of lubrication for ball and roller bearings, it is usually recommended to use oil for high speeds and to use grease for slow speeds and heavy loads. Con-

sidering the extremely small area of contact between balls or rollers and races, and consequently the extremely high pressure per unit area, it is very difficult—and in bearings for very heavy loads, almost impossible to provide a permanent film of oil or grease between the surfaces of contact in order to prevent a metal to metal contact. The best way to overcome these difficulties seems to lie in the use of oils and greases mixed with graphite. In these compounds the oils or grease serve more or less as a vehicle which carries the graphite to the surface of contact. The graphite used must be extremely fine and pure and prepared by the manufacturer with this particular use in view. Experiments have proved that a selected variety of finely ground flake graphite is best suited for this purpose. Because of

(Continued on Page 15).

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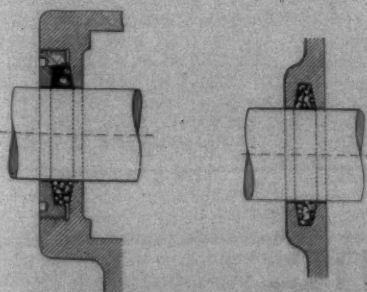


Fig. 9

Fig. 10

them in the bearings and in the housings, very often emery paper or files are used to correct inaccuracies, and in the case the unit is not washed out thoroughly, particles of emery and metal will soon affect the bearings. A careless and rough operation of the sliding gears in the transmission will break or grind off small particles of metal, which, when carried by the lubricant into the bearings, will soon cause a de-



# Cause and Prevention of Uneven Yarn

## Contest Begins.

In this issue we are printing the first of the articles contributed to the contest on "Cause and Prevention of Uneven Yarns," and we give below for the last time the rules which govern the contest.

## Contest Rules.

The following are the rules which will govern the contest for the best practical paper on "Cause and Prevention of Uneven Yarn" which will be run by the Southern Textile Bulletin during December 1915.

(1.) Articles must not be longer than three full columns.

(2.) Articles must be signed with assumed names but the real name and address of the writer must be known to us.

(3.) The subject "Cause and Prevention of Uneven Yarn" will include anything that has a bearing upon the subject even to the growing, picking and ginning of cotton.

(4.) Articles must be original and any that include paragraphs or sections of former articles on the subject will be thrown out. The contestants and all of our readers will be requested to call our attention to any articles that show evidence of having been copied.

(5.) Articles will be published by us in the order received and the judges will be instructed that where two are of equal merit the decision shall be given to the one received first.

(6.) No article which is received after Dec. 15th 1915 will be considered in the contest.

(7.) The contest will be decided by seven practical men who acting independently of each other shall read the articles and give us their opinions relative to which is the best and second best. A vote for first place will count (1) one, and a vote for second place will count (½) one-half.

(8.) The article receiving the largest number of the judges' votes will be declared the winner and its writer will receive \$10.00. The writer of the article which receives the second largest vote will receive \$5.00.

(9.) After the contest the articles will be printed in book form

and two copies presented to each contestant.

We especially call attention to the section about articles which are copied wholly or in part from books or previous articles on this subject. We ask as a special favor that our readers call our attention to any articles that contain sections which they recognize as being copied, in order that we may drop the article from the contest. We will treat as confidential the name of the man who gives us the information.

Remember that no article which is mailed later than December 15th will be considered in the contest.

## Number One.

Speaking of a few things in regard to causes and prevention of uneven yarn, the first thing to be considered is cotton. The staple or length of its fibre is of greatest importance, as it determines the quality of yarn produced, also the size and setting of drawing rolls on different machines, etc. Where fine yarns are to be made, a good grade of cotton is absolutely necessary. Beaters should be reduced to 1000 R. P. M. as the yarn will be stronger than with a fast beater speed. Feed roll should be set to beater thickness of a 2-foot rule, grids set to keep good cotton from mote box, laps kept as uniform as possible. Evener motion should be near driving end of cone, waste must be mixed as evenly as possible, otherwise uneven and bad running work will follow. Pickers should be clean and oiled at all times.

Cards have a very important duty to perform. The proper setting of the various parts of cards is very often slighted and the quality of the work suffers thereby. Cards should have very close adjustments. Too much attention cannot be given to clothing, grinding, setting, cleaning and operating cards. Split or uneven laps, dull clothing, clothing that has been mashed in places, uneven setting of the doffer, or flats, not being evenly set at both ends, too much draft between calendar rolls and coiler heads, cans under coils running too full, cards not being properly cleaned and oiled, card hands fanning off fronts of cards. These are a few of the many things about a card that cause uneven work, and they should have the closest attention.

Cards should be stripped every

other one on a line at a time, in the mean time teaching the hands not to put up ends until the cylinder is sufficiently filled up. On fine work light card sliver and slow carding will give the best results. Cards should have as even a humidity as possible. Licker-ins are largely responsible for the class of work produced and must have close adjustments, and the best of attention.

Where extra good quality fine yarns are wanted, lap machines and combers are used, though they will produce considerable uneven work if not properly kept up. Lap machines should have as short a draft as conditions will permit. Knock-off motions must be kept in working order. Leather rolls should be kept clean and free from lumps in ends. They must be newly varnished often. Steel rolls must be scoured once a month. Laps should be put on as evenly as possible. The polished sliver plates must be frequently polished with whiting. Machines must be carefully cleaned and oiled at regular intervals. Combers must have uniform setting. I will not give rule for setting, as grade of cotton, amount of waste wanted out size laps, are to be considered. Combers should be torn down to upright stands, carefully cleaned and scoured, resetting and removing all worn parts before putting up the machine. This should be done twice a year. Half laps must be kept free from hooked ends. The sliver pans and plates must be polished frequently with whiting. Half laps and top combs must be examined often and kept in good condition.

Leather detaching rolls must be newly varnished once a week. Draw head must be kept cleaned and oiled, also leather rolls kept in good condition. Laps should be set in as evenly as possible. Uneven work may be caused on draw frames by running in too much waste at one time, rollers not being properly covered or weighted, as improperly oiled rollers may be choked at the ends with waste, or not properly adjusted with the staple being used, and clearers not being clean.

With the above things in good shape, rollers should be set with front rollers 1-8 inch farther than staple, middle and back 1-16 inch. Frames should not exceed a draft of 6. Steel rolls should be scoured once a month. Speeders, excessive drafts and rollers improperly set are the most frequent causes of uneven roving. Draft of 4 on slubbers, 5 on intermediates and 6 on fine frames would not be excessive, though slightly under the above

drafts will be better if conditions will permit.

The setting of steel and leather rolls depends somewhat on the conditions such as cleaning, oiling and condition of leather rolls. With everything in good condition, the rollers set 1-16 farther than staple being used will give the best results.

The roving traverse must be kept moving. The tension of the ends is very important. If they are too slack, roving will be too heavy and if too tight, strained and light roving will result. The top cones must be kept tight, cone belts clean and free from slippage, and spindle and bobbin gears kept properly set. The lost motion on vertical angle and compound must be kept out. The proper lay gear must be used. One full and one half full bobbin should be run at each end at a time. Flyers must be free from rough places. Speeder hands should not be allowed to stuff cotton under slats when bobbin gets too small. Two or more sizes of bobbins should not be used on a frame at the same time. If they are, an operative will take up tension for the small size that is running slack. The larger one will then be too tight and stretched roving is the result.

The roving should not have more twist than is necessary to turn bobbins in the spinning room. Singlings, doublings, and hard ends should be avoided at all times. Four bobbins from each hank roving should be sized daily and kept as uniform as possible.

## Spinning.

It is useless to say that the most fruitful cause for uneven yarn on spinning frames is the rollers. They may be dry, fluted, worn, or choked with waste or improperly set. The setting of the steel and leather rolls depends a good deal on the above conditions. With every thing in good condition, the setting should slightly exceed the staple being used. On medium and fine yarn, where good grade cotton is being used, back saddles should not be used. I would also use a slight draft between middle and back rolls. This will enable us to get a closer setting, which means smoother yarn and better running spinning.

The draft of the spinning frame should not exceed 12 at the outside, and if conditions will permit, a draft slightly under that will give better results. Rings and spindles must be set and plumbed at the top and bottom once a year. Worn rings must not be used. The size of the rings is governed by the number of

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the yarn being made. The proper travelers must be carefully selected at all times. Traveler cleaners must be used, to keep travelers from being choked with lint. Worn guides, guides not being properly set, spindles vibrating for lack of oil, bands running slack, slack belts, excessive speed, draft or crown gears not being set deep enough, so they slip a tooth occasionally or being set too deep and causing the rolls to quiver. These are some of the things that cause uneven and bad running spinning. Bad work will also be caused by steel rolls being bent; or worn at stands, causing lost motion; flat flutes may be scratched, broken roving sets or skewers with blunt ends; yarn getting too light or heavy; spare roving left on frames too long, trumpets choked with lint; levers not level; weights not hooked on levers at same hook; improper humidity, roving traverse standing at one place; one end of steel or leather rolls becoming roped with cotton, not allowing other end on same arbor, the proper tension; leather rolls in poor condition; giving spinners more sides than they can efficiently keep up; not keeping frames properly oiled and cleaned. All these little things should be guarded against at all times.

After the yarn leaves the spinning frame, it can be shaved and otherwise weakened by the spooler and winder guides being improperly set, twister rings being out of plumb, worn twisters, or travelers, etc. Many other things could be mentioned in regard to uneven yarn, but for lack of space I will not go farther into details at this time.

P. W.

### Number Two.

The making of even yarn may be likened to the building of a large structure that is to carry great weight. We must start at the foundation of any great undertaking if we wish it to withstand the various storms that will be brought to bear on it, whether it be the delicate cotton fibre or the strongest piece of metal known to man. Hence we start to make even yarns by selecting stock suitable for the class of yarns required. After having done this, it is necessary to have a suitable and large enough room to open the cotton and thoroughly mix it. Poor mixing is one of the greatest faults of our mills today. Now the mixing of cotton does not consist simply of throwing great big pieces of cotton from the bales as they are brought in from the cotton house into one pile, which is very often the case. The cotton should be opened and each bale tested for length and trash. After you have determined the average mix you are to make, have a small portion taken off each bale and thoroughly shaken out over a given floor space. Keep on trimming the bales in this manner until you have the lot all mixed, into a larger pile.

The man who does the feeding of the hopper or blowing system should be instructed to take the cotton from top to bottom of the pile in order to get a small portion of each bale in every armful or boxful as the case may be. In this way you get an even mixture of fibres to start with, which will insure regular strength and even running numbers as far as the stock question is concerned.

Now we take up the picking department. Remember, the less beating you give the cotton the stronger and better the yarn will be. My

experience has taught me to beat it just enough to get the heavy trash out of it. A two system (breaker and intermediate picker) will clean the cotton. Do not run it through the finishers just because you have them in the mill. If you have a three system picker room doing 2,500 pounds per day, convert your intermediate into a finisher and cut the speed down to 1,300 lbs. for each machine. If you have carding beaters, reduce their speed to between 1000 to 1100 R. P. M. I am reasonably sure you will get better results through your mill and make it easier for your cards. The picking department is only intended to clean the cotton and make it into an even layer convenient to transfer to the next process, the cards.

To get even yarn, the card clothing must be tight so as to allow close setting of the different parts of the card, cylinders, tops and doffer. To get a good even web from a cord, it is necessary to set the licker-in close to the feed plate and use a light lap. Run your doffer to get the required production, have licker-in to cylinder, top to cylinder and doffer to cylinder, set so you are not liable to face the clothing at any point.

Now we go to the drawing frame, that simple machine that any fool can run (so some mill men say), a machine that has caused more bad, uneven work in the mill than all of the rest combined. Why? It is so simple to run, nothing to do but put ends up at the back and take the cans off at the front when they get full. However, there is a lot more about the drawing frame than the average layman can understand. To get the best results from drawing frames they should be thoroughly cleaned each week and the top rolls examined. The adjustment of the weights should be carefully looked after, as it is absolutely necessary that each end of the top rolls have the same amount of weight. Now, the sliver guide at the back of the frames should be set just high enough to keep the slivers close when running and not allow them to separate and part of them sag down between calender rolls and front steel rolls. By keeping them as one wide ribbon coming through the rolls you can get the proper compensating gear on the frame and avoid any draft between the calender rolls and front rolls.

The draft question on drawing frames is what destroys more good sliver than any other point. Get your machine drafted properly if you expect to make even yarn. Light sliver and short draft at the drawing frames will show up in high class yarns, whereas if you use a long draft and heavy sliver, at the drawing, your yarn will be put in as low class yarns.

The slubber is the first machine that puts twist in the cotton and like all others that proceed it, has four motions, drawing, twisting, laying and tension. Close watch must be kept on the first and last two. First, the setting of the rolls to suit the stock, cleaning, oiling, etc., to keep the rolls moving freely. Above all things avoid long drafts with a sliver too heavy for the roll weights. As to the tension, see that the frames starts off right and never allow a hand to take up or let out the cone belt. If you have trouble with your frames jerking and stretching the roving, increase the width of the cone belt to 3 inches and change the bottom cone gear to give you the proper speed at the start of the set.

I will not dwell on the intermedi-

ates, nor speeders, as they require the same attention as the slubber, except this. See that the skewers are not blunt, which allows the roving from the slubbers to intermediates to be stretched in the creel. Keep sight of your drafts on these machines. Excessive drafts will make uneven yarns, and there is no remedy for it, not even short drafts, in the spinning room.

Now suppose we have observed all of the above very carefully, seeing that there is no carelessness in handling the stock from picker to speeder. Suppose that the oiling and cleaning have been done with care and intelligence, we will enter the spinning room.

In the spinning room we again meet the same conditions except on a differently constructed machine. Here the draft and rolls of the machine must receive the same attention as before and like work shall be performed with more strict attention on the part of the overseer and second hands, as we have now to deal with the young people who make up the spinning room help. A boss spinner must make certain rules regarding the cleaning and oiling of rolls, the inspecting of same by an intelligent person. I find the best method is on Saturday when all is cleaned up to have the spinners place top clearers on top of the frames and then the second hands pass up and down each alley, inspecting the condition of them, and then and there remove or have removed, any roll which in his judgment is not making good work.

Now, Mr. Editor, there have been so many articles written on the management of the spinning room, some of which you have published and distributed in book form, that it would be folly for me to say anything that some fellow may say of, "I wrote that same thing for The Bulletin a year ago." So I will close with this short sentence: There are two things in the mill that make uneven work and that have ruined the product of many a mill. These two are **Draft and Tension**. I heard the president of the New England Manufacturers' Association once say: "Give me roving free from overdraft and tension strain, and I can make good yarn on a wheelbarrow." Now, I want anyone who reads this to understand that I do not overlook the twist question, but we all know there is no set rule for twist in the average American cotton, except the rule of common sense, and that is to put in enough to carry it through to the next process without stretching it.

Eureka.

### Number Three.

In discussing this question we are discussing one of the most vital questions concerning the cotton mill.

Leaving out the gouts, which are mostly caused in the spinning room by carelessness in putting up ends, running without scavenger rolls, or fanning off frames while running, the thin places in the yarn cause at least 50 per cent of the yarn breakage in the weave room.

The most of the twist runs to the thin places, which makes the twist at that point excessive. And by the time the yarn is run over the spoolers, warpers and slashers, these thin places are dead and brittle, and easily broken. By being twisted so hard they don't absorb the size in slashing, even if they don't break in these processes, which they do to a great extent, causing laps and loose ends in the warps that go to weave

room. It is impossible to make good section beams on the warpers when the ends break excessively. And it is just as impossible for the slasher man to make good warps for the weave room.

If the yarn is weak when it leaves the spinning frames, it increases in "badness" with each process that it goes through from there on. As each process from spinning frame on, is a wearing and stretching process. The strengthening and building process ceases when it leaves the spinning frame. But these injuries are partly overcome by the sizing at slasher if properly done.

The weave room becomes the dumping ground for all the carelessness and mistake of the whole shooting-match from the man that bought the cotton on down to the slasher man. The opening and mixing, picker room, cards, drawing frame, slubbers, speeders, and spinning, each contributing its share of bad work and causes of uneven yarn.

To start with, I know some mills that have their cotton bought in a haphazard way, not paying much attention, if any, to the length of the staple of each bale. They just pick it up in job lots as cheap as possible.

If there is too great a difference in the shortest and longest staple it is a mechanical impossibility to get a mixing that you can produce even yarn. Intelligent, careful mixing in many cases will partially overcome the buyer's mistake. This first mistake though is like all the balance made in the different processes, the evil once done can not be entirely eradicated in any of the processes following this one mistake. Once wrong, it will go through wrong. I will not attempt to go into all the settings of the different adjustable parts of the picker room and card room machinery, as there are no standard settings that will apply to all classes of work and conditions. Keep the air currents right, the beaters at right speed according to class of work, and on any class of work keep the evening machinery on the pickers in perfect working condition.

Good horse sense and care is needed here, and this properly applied will get out some good laps for the cards.

But I think the majority of the thin places in the yarn is caused after the stock reaches the drawing frames. The setting of the rolls from the drawing frames, the settings of the rolls from here on is responsible for even or uneven work. Roving stretched on any of the machines is ruined for making even yarn. Roving with excessive twist in it will not draw evenly when being spun. The rolls on spinning frame set too far apart for the length of the staple will make uneven yarn. Rolls set too close will make the same or cockled yarn, which is worse than yarn with thin places in it.

Here is where the bad mixing shows up in his best clothes and makes it impossible for the spinner to set his rolls to suit the stock, trying to get through his machinery. If he sets his rolls for medium length staple and a bunch of extremely short hits him he is up against it. If extremely long hits him he is into it again. Though the best he can do is to neutralize his rolls and make them as friendly to both extremes as possible. And then the long, hard twisted staple will come through his rolls "pigtail" fashion and ruin his shell rolls.

I don't think it is a mechanical



possibility to make perfect yarn, technically speaking; but by intelligent team work from the man who buys the cotton, on down the line to the spinner, it can under normal conditions be made even enough to get out a good product in the weave room and make cloth up to the requirements of the customs of the mill.

So much for the machines. Poor things, it is a pity some time that they have to do so bad and be blamed for doing the very thing that it is set to do, it is a pity they can't adjust themselves some times, but as it is they depend on man to set them, and if the man in most cases would do his part as accurately as the machine, we wouldn't have very much uneven yarn. So the big trouble after all is the human machine. To start with, the cotton buyer buys promiscuously. (There are exceptions, of course). The carder "bats em" through to get a big poundage for his report at low cost. (Which in some cases would be costly to the mill company, if it was put through free gratis). He gets his poundage O. K., and says his weights come pretty even, which they may, but that is no sign the quality is right to make even yarn.

The spinner takes the product in hand and goes through the same process of "bating em" through without much, if any, thought of the man that has to follow him, just as the carder did him. Both getting by with good production in pounds with low cost, and the consequence is bad running work the rest of the way to the cloth room with a lot of second-class cloth. A lot of correspondence between the selling house, mill agent and the mill customers, and some times a loss of good customers, and a bad reputation on the market, and in dull seasons close down and get discouraged.

Team work—intelligent team work—is needed in the mills, and will do more to cut out uneven work than any one thing. Each man in charge of the different departments should strive to give over the product to the next man in as good condition as possible. Everybody from the cotton buyer down should have one object in view, viz., to have the finished product first class. I am sorry to say that some superintendents pinch down on the carder so close on cost that it is almost impossible for him to get a satisfactory production in pounds and make it A-1 quality. The same is true of other departments.

Another common thing in a lot of mills is unbalanced machinery. Not enough opening and picker room machinery. Not enough cards, not enough drawing, some shortage that necessitates over-speeding the machines that they are shy on, making the laps too heavy, and various schemes to make the weak part keep up, which throws the drafts wrong on a lot of machines. All this makes bad work, uneven yarn, and causes a big loss to the company. Sometimes they lose dollars to save cents.

I am not knocking, but it is the human machine that is causing most of the uneven yarn and poor quality goods from the mills of the South to-day. Get the right kind of superintendent and let him and the men in charge of each department work together in a friendly, business-like co-operative way. Carry instructions and orders down from the head—the superintendent or manager—down to the other end of the line in a military fashion. It won't be long until every thing will be working smoothly with even yarn and good business.

But I am about to get off on another subject, so I will quit.

E. H.

#### Number Four.

It is not the intention of the writer to discuss this subject except from a practical standpoint. Cause and prevention of uneven yarn is a problem that we have to face more or less every day, and the only way to make an even yarn is to be on the lookout for small things at all times. To make an even yarn we must have a uniform staple, the carder should get out his mixing and grade his cotton, try to get the staple as near the same as possible, open as many bales at one time as the space in opening room will permit. Have the man whose duty it is to feed the hopper to keep this machine about two-thirds full at all times. This may seem too small a matter for some to pay much attention to, but if we expect to get an even lap on the beater we must have an even feed from hopper. The breaker laps should be weighed two or three times each day and kept as near one weight as possible. Close attention should be given to the pickers as it is very desirable that we make good even laps. Do not allow finished laps to vary in weight over 1-4 of a pound either way. If they are too light or too heavy have picker man to set them back and run over, or the card sliver will be uneven.

#### Cards.

The cards do not receive the attention by some that they should. Bad work made on these machines will show itself during each process. The cards should be ground every 15 or 20 days, with good grinding emery, the grinding rolls should be covered with new emery after 10 or 15 cards has been ground. If we expect the cards to turn off a good even sliver free from foreign matter we must keep the wires sharp. The licker-in should be kept in good shape and set as close as the staple will permit. A lot of uneven work is caused on the cards from split laps. If the lap splits and runs into the card double, the sliver will be too heavy. The card hand should be watched very closely and made to get all singlings or doublings out of cans on front of cards. Keep the cards clean so the dirt and trash won't get into the good stock. If the card hands let the sliver cans get too full the sliver will be stretched and be too tight. When stripping cards a good idea is to strip every other card after these have run about an hour, then finish stripping. The sliver will run lighter when the card has just been stripped than after the card has been stripped awhile, so if we only strip half the cards at one time, we only get half the light sliver that we will if we strip all cards together.

#### Drawing Frames.

Drawing frames are the simplest machines in the mill, for that reason they receive less care. These machines should be looked after very carefully. The rolls should be kept in good condition and properly oiled. The stop-motion should work perfectly or we will get light and heavy sliver. If a sliver breaks on the back of frame or cans run empty and the stop-motion works a little slow, we will have 5 ends up instead of 6 and the sliver on the front of machine will be 1-6 too light, or if an end is lapped on the back of frame for two or three inches we will have 7 ends up instead of 6. The sliver on front of frame will be 1-7 too heavy. By the time this sliver reaches the

spinning frames it will be stretched several inches and the yarn will be uneven.

Keep an eye on the drawing hand when he gets behind and see that he don't slip cans of sliver from the front of first drawing to slubbers in order to catch up quickly. See that all parts of machines are oiled at the right time, and that the weights are hung right and that there is plenty of weight on top rollers. See that top and under clearers are picked clean once every hour. Keep all bad rolls out of frames; don't allow rolls to stay in frames that need varnishing; don't allow the drawing tender to let the cans get too full on front of machine, as this will stretch the sliver. If you have can stop-motion see that it is in working order. Size the drawing sliver at least 6 times each day, and don't fail to change the draft gear if the weight isn't right. All numbers should be kept on drawing and if watched closely at this point it will hardly ever become necessary to change draft gears on fly frames or spinning frames.

#### Fly Frames.

Slubbers, intermediates and speeders must receive proper attention if even roving is to be made. It is possible for the picking, carding and drawing to be almost perfect and then bad, uneven roving to be made on fly frames. The rolls on fly frames should be cleaned once each day and oiled regularly. The bottom steel rolls should be taken out of frames and cleaned with card clothing and whiting once a year. It is necessary to keep the flutes clean on steel rolls if even work is made. The roving must have enough twist so it won't break in creels. If too soft, it won't have strength enough to pull itself and the results are the roving will stretch and this will cause thin places. The tension on fly frames is very important and should be watched very closely by the overseer, for if tension is too tight roving will be uneven and full of thin places, if too slack it will wind too loose on bobbin and make a soft bobbin, and this will break-back and stretch in creel at next process. This means uneven work. Special care should be given to the creeling of intermediates and speeders, as bad creeling means uneven work. Every doubling and singling made on fly frames means bad running spinning and weak and heavy yarn.

#### Things to Watch Around Fly Frames.

See that the roving travis works freely and makes full stroke. Have frame lined and leveled once every year. Keep all worn spindles and bolsters out of frames, have stops oiled every two weeks. See that no roving is wound around the back steel rolls as this will raise the top leather roll and stretch the roving. Do not let frame hands run frames too full, as this will chafe and cut the roving. Keep all bad bobbins off spindles as a bad bobbin will vibrate or shake and make the roving uneven. Have section men to keep all bad rollers out of frames as a bad roller means bad work. Never put a new roller in frame without oiling it, nor allow frame hands to fan off, as the flyings will get on the stock in process and make lumpy roving. Have spindles oiled every Monday and Thursday. We must pay attention to the small things if we make even work.

#### Draft in Card Room.

If good running work and even roving is made then drafts must be right at each process. For a 4.50 hank roving on speeders made from 1-inch staple cotton, would ad-

vise the following drafts: 98 on cards, 6 on drawing, 4.35 on slubbers, 5.35 on intermediates, 6 on speeders. The writer has tried this and has gotten good results.

#### Spinning Department.

Every thing in the spinning room depends on how clean we keep the frames. As to what kind of yarn we turn out, the carder may make almost perfect roving and if the management in the spinning don't watch and look after the cleaning at this point, bad yarn will be the result. The frames should be lined and leveled once every year. The roving creels must be level, and in line so there won't be any undue pull on the roving. The oiling is a very important factor in this department. Special attention should be given to the top rolls which should be oiled at least twice a week. Spindles should be oiled every three weeks. A dry spindle will vibrate and make uneven yarn.

#### Banding.

The bands should be tied on by a particular person and one that can be trusted, as a slack band will reduce the speed of the spindle and make soft, uneven yarn. The bands should be made of roving and weigh about one pound to 120 bands. Don't make bands out of yarn, as a yarn band will stretch and not come off when it first gets slack.

#### Things to Watch and Do in Spinning Room.

Spindles should be plumbed and set in center of rings, guide wires set to top of spindle. Keep all bad spindles and bolsters out of frames. Don't use guide wires that have grooves worn in them. See that roving creels are in line and perfectly level. See that roving sticks are in good shape and that the bottoms are not worn blunt, as they must turn freely or the roving will be stretched. Do not allow bad or worn bobbins to be used as a worn bobbin will vibrate and make uneven yarn. Have roving creels wiped once each day, for if lint and cotton are allowed to collect around the end of the roving stick, it will be hard to pull and the roving will be stretched. Have all top rolls picked every day for dirty rolls make more uneven yarn than anything else in spinning. Have some one to inspect all rolls once a day and see that all bad or worn rolls are kept out of frames as a bad roller can't make any thing but bad ad uneven yarns. Have guides run or wiped out every 30 minutes. If lint is allowed to collect at this point, it will catch on the yarn and show up in lumps, and these lumps will hang in the thread guides on winders or spoolers and stretch the yarn. Have all travelers changed every 3 weeks, as a worn traveler will cut and chafe the yarn. Do not allow roving to wind around the steel rolls and stay there, as this will raise the top leather roll and make the yarn uneven, keep all lumps of cotton out of the trumps as this will make the roving draw hard and make the yarn weak. Keep all worn rings off of frame for good even yarn cannot be spun on a bad ring. Don't allow the spinners to let 3 strands of roving run into one end where two is all that is necessary. Make doffers piece up as soon as frame is started after doffing, as a lot of doublings and choked rolls will be saved by this. If the yarn is made right in the carding and spinning departments we will not have much trouble in the other rooms. If we will watch the little things the big once will take care of themselves.

T. R. M.



### Textile Trade Conditions After the War.

The prediction of prominent textile manufacturers that a period of depression will be felt in this country at the termination of hostilities abroad, is not concurred in by a number of equally prominent wholesalers, who see in the dark cloud hovering over Europe a silver lining which will cast its rays powerfully over this country at the close of the war and shake the very foundation of business with prosperity.

Arguments are advanced covering every phase of business, practically, to show the "other side" of the much discussed topic and for every statement of the business man who foresees depression after the war, there is strong "come back" in the shape of an argument which is surrounded by facts and figures to prove its weight.

In the large number of wholesalers interviewed there was a unanimity of opinion that the future will witness prosperous times for this country and that the close of the war will mean even a brisker business than is now apparent.

Cheap European labor after the war, which seems to be a cause of worryment with some, is a question which does not seem to bother these business men. The labor market of Europe, it is pointed out, is being rapidly depleted by the war, many skilled tradesmen are being killed or maimed so that they will no longer be fit to carry on their former occupations; and the longer the war lasts the worst this will be. While German industries, it would seem, are intact and have not been destroyed, as the fighting has not been on her soil, nevertheless industrial activity in the various arenas of the war will be seriously crippled, as factories, railroads, public buildings and bridges are in ruins and will have to be replaced before they can be counted on in the trade of the world. This great period of regeneration will also require labor and be another drain on this element; and the people will not work for nothing."

It was also suggested that Germany's resources may be lower than is generally believed, and that the embargo she has placed on some goods may be the result of a pressing need for these materials at home rather than a desire to keep any other country from getting them. Her cotton supply is conceded to be low, inasmuch as much cotton is used to manufacture explosives. It is also argued that much wool is being put into the ground when her soldiers are buried, for even with her economies it is thought that surely a decent burial is given the dead. Following up this thought, it is inferred that her resources are likewise low in other materials, and will become less as the war goes on and even though her industrial plants have not been damaged by the war it will take some time for Germany to get on her feet and enter the commercial field with the strength she had before the war. And again, it is said in many quarters that her plants have been dismantled to make war munitions.

Specific reasons why business should be better than ever here after the war are cited as follows: In the hosiery line, for instance, it is pointed out that stocks are getting low because the manufacturers cannot get dyes. Wholesalers do not wish their stocks to become so depleted and are anxious to secure goods which the mills cannot deliver. When the war is over and dyes become available, the hosiery mills will be pushed to their utmost filling up the depleted stocks throughout the country, and will be busy for some time to come.

The story was told of a certain city in Ohio, in which the trolley receipts were falling off. An investigation was made and disclosed the fact, according to the story, that one concern employing thousands of people, has had its export business paralyzed by the war and consequently had laid off many employees and reduced the number of people carried by the traction company. With the end of hostilities, this business, it is said, will be resumed in greater proportions than ever before, and will be a factor in helping to spell better times.

It was declared that America is learning to replace many articles heretofore secured from Europe with American made goods and in illustration of this was cited by a wholesaler who recently returned from the coal regions. He said he was shown an electric lamp worn on the miners' caps. Before the war these lamps were all purchased in Germany, but when this source of supply was cut off, the demand was filled at home and will continue to be filled here.

"I have never seen an anthracite coal strike," said a wholesaler, "during which many factories burning anthracite have not altered their boilers so that they could burn bituminous coal. Do you think they went back to anthracite after the strike? No." Along the same line of reasoning the prediction is made that we will not go abroad for things which we are now making here. The thought was also expressed that when the war is over we will turn to our own needs and the statement made that the war trade will be only a "drop in the bucket," compared with business then.

Theodore T. Thieme, president of the Wayne Knitting Mills, Fort Wayne, Ind., is of the opinion that when the war ends, this country will be put to a most severe test "and I don't see how we are going to stand up under it," he commented.

Mr. Thieme continued: "How can a weak, shifting, outclassed system of government in city, county, state and nation meet the real, serious problems which will confront this country in the near future? Our government has become so corrupt and so autocratic that its chief operations are subservient to one aim, which is the exploitation of the people. The welfare of the people has been entirely lost sight of. We will be as unprepared to meet the competitive business conditions that will be imposed upon us in the near future as we were to meet the exacting conditions of war, had we been forced into it.

"We are talking preparedness for war, but so far have not talked preparedness for world competition. We are farther away from that than we are from war preparedness. It almost seems now as though when Europe gets through that the United States will start in. (Not an external war, but an internal convulsion.)

"These are surface indications as I see them. I hope they are wrong."

Commenting on a recently published interview with Joseph H. Emery, president of Lord & Taylor, in which Mr. Emory outlined the problems this country would have to face after the war, Mr. Thieme said that Mr. Emory had touched only a few of the vital spots, but enough to direct the attention of manufacturers and business men to the dangers, after the great war ends.

Speaking of the export possibilities after the war, the head of a large concern which has gone after export business says that in his opinion fully 75 per cent of the business now being established will continue to come to this country. This, of course, does not refer to the munition business of the steel mills, nor the business in uniform cloth and war orders in hosiery, etc., but refers to regular business. The labor element, it is said, is also a factor that must be considered in this connection, and with the drains now being made on European labor, cheap labor will not exist after the war and will not be a factor in foreign trade, with which we will have to contend.

The longer the war lasts, another merchant asserted, the firmer the various connections now made will be cemented and the better will the South American merchants become acquainted with our methods of doing business and likewise we will also have more time to better understand their wants and know how to fill them.

One in a position to know says that they like the merchandise purchased in this country and that it meets their requirements well, although some objection is made to the prices now being charged for merchandise in this country, as compared with European prices before the war. An incident is related in connection with prices. An order for hosiery was placed and the possibility of a larger order to follow was given if the price could be reduced. A reply was cabled quoting a 10 per cent increase, but the order was placed at the increased price.—Daily Trade Record.

### An Easy Solution.

"Don't yez know yit how t' drive a nail without mashin' yer t'umb?" gleefully inquired the hod carrier of the injured carpenter.

"No," retorted the carpenter hotly "an' neither do you."

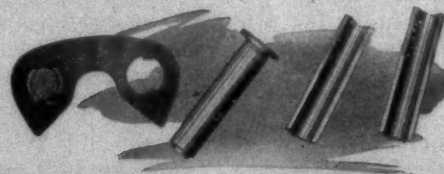
"Shure Oi do," returned the hod carrier. "Hould th' hammer wid both hands."—Ex.

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# SOUTHERN TEXTILE BULLETIN

Offices: Room 912 Realty Building, Charlotte, N. C.

Published Every Thursday By  
**Clark Publishing Company**

**DAVID CLARK, Managing Editor**

**D. H. HILL, Jr., Associate Editor**

## SUBSCRIPTION.

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Single copies .....	.10

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## ADVERTISING.

Advertising rates furnished upon application.

Address all communications and make all drafts, checks and money orders payable to the Clark Publishing Company, Charlotte, N. C.

Entered as second class matter March 2nd, 1911, at the post office at Charlotte, N. C., under the Act of March 3d, 1879.

THURSDAY, DECEMBER 2, 1915.

### Our Circulation Growing.

Since putting out one of our traveling representatives this fall we have been impressed with the fact that subscription are easier to get and come faster than ever before.

Each season we have found this to be true, but there has been a greater change this year than usual and we attribute it to the fact that we have become very firmly established in the Southern cotton mill territory.

Many advised us that we could not establish a textile journal upon a pay-in-advance basis but we have proved beyond question that the mill people are not only willing to pay their subscriptions in advance but prefer to pay them that way.

We travel two representatives for a larger portion of each year and have already contracted for an additional man to start out Jan. 1st, but we could this year maintain our circulation at its usual figure with only one representative on the road.

Other journals may make claims about circulation, but every one who is engaged in cotton manufacturing in the South knows that the Southern Textile Bulletin is the journal that is most generally read throughout the industry.

### Our December Contest.

In this issue we begin to publish a series of articles on "The Cause and Prevention of Uneven Yarn" and it will pay everyone connected with the cotton manufacturing industry to read and study them carefully. These articles have been written in competition for prizes which we have offered for the best practical paper on "Cause and Prevention of Uneven Yarn," and are the products of superintendents, overseers and other practical men in the mills.

Very few of them are finished products from a literary standpoint and in a majority of them we have had to correct the spelling and the wording, but they are the practical ideas of practical men and the papers contributed to this contest will contain the more valuable information than can be found anywhere upon this subject. We can not tell in advance how many men will enter the contest, but judging from our experience in former contests we expect the number to be about fifty.

The editor of this journal was the originator of such contests and has been able to carry them through successfully, due largely to the fact that the contestants in every previous contest have been satisfied

that they were given a square deal.

Not only are the contestants practical men, but the judges are seven experienced mill superintendents selected from different sections of the South. None of the judges know the names of the other judges or the names of any of the writers and each must give his decision independently and based entirely upon the merits of the articles.

"The Cause and Prevention of Uneven Yarn," was the subject of the first contest ever run by the editor of this journal who at that time filled a similar position with another journal.

It is an intensely practical subject which troubles men in their every day work in the mills and it affords an almost unlimited opportunity for study and research. Since launching the Southern Textile Bulletin we have run contests on "Opening, Mixing and Picking," "Practical and Efficient Spinning," "Management of Help," "Care and Operation of Roving Frames" and "Preparation of Warps for Weaving."

The articles contributed to each of these contests have been printed in book form and when we add to them a book containing at least fifty articles by practical men on "The Cause and Prevention of Uneven Yarn" we will be able to furnish any mill man a library of very great value.

Most textile books are written by men of limited practical experience in cotton manufacturing, but these contest books give the ideas, suggestions and experience of men who know what they are saying because their lives are spent with the machinery and they have such problems to overcome in their daily work.

The educational value of such contests is almost beyond estimation, for they have played a considerable part in increasing the efficiency of the superintendents and overseers of Southern mills.

The greatest value obtained from the contests is by the writers themselves, for it causes them to study many points that they had long passed over without much consideration and thereby teaches them to more fully and systematically analyze troubles when they occur.

Some men who could only express themselves very crudely when they look part in the first contest have now become fluent writers which show the effect upon their general education.

These contest articles are being read each week by not less than five thousand men who are engaged in cotton manufacturing and all of whom are at times troubled with uneven yarn.

Not only will these five thousand men absorb ideas from the contest that will be a direct value to the mills for whom they work, but after the articles are printed in book form they will be read and studied for many years to come by the young

men who are growing up in the industry and there are very few that will not be benefitted.

Aside from the immediate interests that such contests cause our object in running them is to gather together practical information from practical men in such form that it will increase the efficiency of the Southern mills and improve their output.

We believe that the contest for the best practical article on "The Cause and Prevention of Uneven Yarn" will do much towards that end and we believe that the articles contributed will be carefully read by those connected with cotton manufacturing in the South.

### Resolutions of Thanks to B. E. Geer.

The following resolutions were adopted by employees of Judson Mills, Greenville, S. C., in a mass meeting Thursday:

Be it resolved, That we, the employees and citizens of Judson Mills, in a mass meeting, do, by a rising vote, extend to B. E. Geer, our president, our warm approval of the stand taken by him in the recent strike and do assure him that we are with him and will hold up his hands in keeping all such trouble away from us hereafter.

Be it resolved, that, our thanks be extended to him or granting our petition to open the mill doors on November the 15th, thereby, allowing us to resume our respective work.

Be it further resolved, that, we extend to Mr. Geer our firm belief that he will always look out for our interest and we, in return, pledge him our loyalty and support.

Be it resolved further, That a copy of these resolutions be mailed Mr. Geer and also, a copy to each one of our papers.

J. A. Jackson, Chairman.  
A. P. Gault, Secretary.

### An Import Company Organized.

To facilitate imports of dyestuffs of German origin, there has been organized under the laws of the State of New York, an import company to be known as the Republic Trading Corporation, which will receive and distribute to the several importers any consignments of dyestuffs which the German Government allows out during the war and which may be permitted through the lines under the present ruling of the British Order in Council, which provides for the passage of two cargoes. Mr. William A. Mitchell, who is named as distributor in this ruling, has executed a waiver in the new company's favor, and the several textile associations affiliated with and members of the Textile Alliance, have similarly executed waivers which are to be placed on file with the Department of Commerce in Washington. Application is being made to the British Foreign Office to accept this substitution and so soon as this is accomplished the matter will be presented to the German producers that they may apply to the German Government at Berlin for an allotment for export with the least possible delay.—Dye-stuffs.



## PERSONAL NEWS

T. S. Griffin is now superintendent of the Williamsburg (Va.) Knit Mills.

J. W. Corley has become manager of the Lovera Cotton Mills, Trenton, Tenn.

Henry Parker has been promoted to second hand in spinning at the Armstrong Mills, Gastonia, N. C.

E. M. Hudson has resigned as second hand in carding at the Danville Knitting Mills, Bon Air, Ala.

Allen Crawford has become second hand in carding at the Danville Knitting Mills, Bon Air, Ala.

J. C. Tipton, of Greenwood, S. C., has become overseer of carding at the Enoree (S. C.) Mills.

Carl Walker has been promoted to section hand in spinning at the Saxon Mill, Spartanburg, S. C.

C. L. Biggers of Huntsville, Ala., is now covering rolls at the Marlboro Mills, McColl, S. C.

J. A. Goggins is now filling the position of night carder and spinner at the Millen (Ga.) Mills.

G. W. Starnes has resigned as night overseer of weaving at the Jackson Mills, Monroe, N. C.

J. H. Merritt has resigned as overseer of weaving at the Manetta Mills, Lando, S. C.

J. H. Dixon has resigned as overseer of spinning at the Oxford (N. C.) Cotton Mills.

L. M. Bentley, superintendent of the Robersonville (N. C.) Hosiery Mills, is visiting relatives at Union, S. C.

H. F. Hill has been promoted from section hand to second hand in spinning at the Saxon Mill, Spartanburg, S. C.

Paul K. McKenny has been made treasurer of the Texas Cotton Mill Co., McKinney, Texas, and has been succeeded by W. M. Mosheim as superintendent.

S. C. Rush, of Enoree, S. C., is now master mechanic at the German-American Mills, Draper, N. C.

R. P. Gossett, of Enoree, S. C., has become overseer of the new spinning room at the German-American Mills, Draper, N. C.

L. E. Wofford has resigned his position at the Saxon Mills, Spartanburg, S. C., to become overseer of spinning at the Inman (S. C.) Mills.

Barney T. Hudson has resigned as second hand in spinning at the Muscogee Mills, Columbus, Ga., and now has a position at the Richmond Hosiery Mills, Rossville, Ga.

C. C. Randleman has resigned his position at City Point, Va., and returned to his former position as superintendent of the Weldon (N. C.) Cotton Mfg. Co.

J. P. Floyd has resigned his position at the Carolina Mills, Greenville, S. C., and is now second hand in spinning at the Woodruff (S. C.) Cotton Mills.

Lee Hightower has resigned as second hand in weaving at the Cliffside (N. C.) Mills, to accept the position of overseer of weaving at the Highland Park Mill No. 1, Charlotte, N. C.

H. F. Cornett has resigned his position in the card room No. 1 at the Fulton Bag and Cotton Mills, Atlanta, Ga., and accepted the position of overseer of carding at the Danville Knitting Mills, Bon Air, Ala.

T. A. Drake has resigned as overseer of spinning and single spooling at the Aldora Mills, Barnesville, Ga., to become overseer of No. 2 spinning at the Fulton Bag and Cotton Mills, Atlanta, Ga.

### Engineer Breaks Neck at the Imperial Mill

H. Brown Harrison, an engineer, was found dead in the engine room of the Imperial Mills, Eatonton, at an early hour Tuesday morning. On account of a slight

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stroke of paralysis Engineer Harrison was forced to give up railroad work several months ago. He returned to Eatonton and secured a position as assistant engineer at the Imperial Cotton Mills and night watchman. His duties required him to connect the engines for the day's work. Tuesday morning he was found dead on the floor of the engine room with his neck broken. His lantern still lighted was on the engine. It is supposed that his foot slipped and he fell to the floor.

### Community House Meeting Was Held.

Exercises were held at the Toxaway and Riverside Mills community house, Anderson, S. C., Saturday night commemorating Thanksgiving Day, and they were well attended, over 100 being present.

Capt. H. H. Watkins was the speaker of the evening and he compared the things that the people of today have to be thankful for with the things in his boyhood days. He spoke of the educational advantages, employment advantages, transportation, amusements, etc. Capt. Watkins also compared yesterday with one year ago. Last year everything was dark and gloomy and now the outlook was bright with prosperity reigning all over the United States.

In addition to the address of Capt. Watkins, Dr. Jas. P. Kinard, president of Anderson college was present, and made a short talk. Four Anderson college students were present also and read and recited.

As a whole the evening was very enjoyable. Miss Frances Finley has charge of the community work at these mills and she deserves a great deal of credit for the progress she is making and also for the meeting

that evening. Much interest is being shown by the operatives of the mills in this community work.

### Eno Mills,

### Hillsboro, N. C.

C. H. Robertson.....Superintendent  
J. H. Jenkins.....Carder  
A. B. Summey.....Spinner  
Will Cheek.....Weaver  
W. A. Heartt.....Cloth Room  
H. H. Iler.....Master Mechanic

### Darlington Mfg. Co.

### Darlington, S. C.

G. A. Buchanan.....Superintendent  
Jno. H. Tinkler.....Carder  
C. J. Tripp.....Spinner  
E. A. Franks.....Weaver  
W. A. Jordan.....Cloth Room  
M. H. Flannagan.....Master Mechanic

### Greenwood Mills,

### Greenwood, S. C.

P. D. Wade.....Superintendent  
J. L. Williams.....Carder  
J. B. Harris.....Spinner  
Joe Birzard.....Weaver  
J. T. Dorn.....Cloth Room  
W. A. McKee.....Master Mechanic

### Anderson Cotton Mills,

### Anderson, S. C.

Frank J. Clark.....Superintendent  
Benj. F. Aiken.....Carder  
Chas. O. Carter.....Spinner  
J. L. Bobo.....Weaver  
W. Carl Austin.....Cloth Room  
W. Perry Wright.....Master Mechanic



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NORTH CAROLINA



## MILL NEWS ITEMS OF INTEREST

**Griffin, Ga.**—The Griffin Mfg. Co. has placed orders with the Steel Heddle Mfg. Co., of Philadelphia, Pa., for the loom-harness equipment of their new looms.

**Robersonville, N. C.**—The Robersonville Hosiery Mills have closed down for several weeks. The scarcity of dyestuffs is given as the reason for the shut down.

**Clover, S. C.**—Fire completely destroyed the waste house of the Clover Cotton Mill. It is presumed that the blaze had its origin from defective wiring, although this is not a certainty since it appeared to be well under way before discovered. The building was constructed from sheet iron and the interior was a mass of flames before the alarm was sounded. The cotton mill fire department was called out and kept the fire from spreading to any adjacent building.

**Gainesville, Ga.**—A new knitting mill for supplying the local trade will be opened by B. H. Merck on the first of January.

The capacity of this new mill will be 100 dozen pairs of hose per day.

The first knitting mill was established last year to supply foreign trade with a selling agency in New York. As will be remembered, the capacity of that mill has already been doubled, and still goods are being sold faster than they can be manufactured, which precludes supplying the local trade with products of this home industry.

**Gaffney, S. C.**—At the meeting of the directors of the Gaffney Manufacturing Co., following the annual meeting of the stockholders, which meeting was reported last week, a dividend of two per cent was declared on the common stock and the regular semi-annual dividend of three per cent on the preferred stock. The common stock is \$800,000 and the preferred stock is \$175,000, making a total of \$21,250 to be paid in dividends on January first.

After the salary of President Alfred Moore had been fixed, he voluntarily reduced it \$1,500.

**Edenton, N. C.**—The new addition to the Edenton Cotton Mills is being rapidly pushed to completion. Nine thousand spinning and 5,000 twister spindles will be added, which will bring the total equipment of the mill to 22,000 spinning and 10,000 twisting spindles. All of the new machinery was bought from the Whitin Machine Co. The product will be 26-2 warps and skeins. The management expects to have the new addition in operation by May 1, 1915.

An up-to-date yarn conditioning room will be put in. Electric power will be used. T. R. Morton, superintendent of the present mills, will also have charge of the new mill.

**Union, S. C.**—Monarch Cotton Mills is installing additional machinery, so as to complete the plan for enlargement begun a year or more ago. Some time since the building had been completed. The final installment of machinery, now under way, will give this mill a total of 78,500 spindles, 1,825 looms, and will consume 11,000 to 12,000 bales of cotton per annum.

The contract for the erection of 40 additional houses for operatives has been let to E. B. Cheshire. These houses will be from three to six room houses.

The affairs of this mill are in excellent shape, as was shown at a recent meeting of the stockholders.

**Great Falls, S. C.**—The Republic Cotton Mills has been commissioned by the secretary of state with a capital stock of \$1,200,000. The petitioners are R. S. Mebane, H. B. Mebane, both of Great Falls, and T. B. Butler, of Durham, N. C. The company proposes to build and operate cotton mills at Great Falls. The new company will absorb the present Republic Cotton Mills, which is chartered under the laws of New Jersey. The mill will go into the new company at a value of \$600,000 and the rest of the capital stock

of \$1,200,000 will be paid in by stockholders in cash.

The Republic Cotton Mills will build another mill, 40,000 spindles and 1,000 looms, the details of which were announced in October as previously noted.

### Graniteville (S. C.) Manufacturing Co. Put in Hands of Receivers.

The Graniteville Manufacturing Company was put in receivers' hands Saturday. Jacob Phinizy of Augusta, Ga., and R. G. Rhett, of Charleston, S. C., are the receivers.

The receivers are empowered to start the mills at once. It was the understanding in Charleston that all three of the factories would be put in operation Tuesday. In Augusta, however, no information to that effect was available.

The position taken by some of the northern creditors made impossible the proposed reorganization plans, whereby the creditors, with the cooperation of the stockholders, were to operate the property for such length of time as was deemed necessary.

These reorganization plans having fallen through, Judge E. H. Callaway made application for a receivership Saturday before Judge H. A. M. Smith, in the United States court,

at Charleston. Mr. Phinizy and Mr. Rhett were named receivers, and, as stated, they were empowered by the court, to start the company's three mills at once.

At the hearing in Charleston Judge Callaway represented creditors presenting claims aggregating \$500,000 against the mills. Other creditors were also represented.

In the United States district court Judge Henry A. M. Smith appointed Jacob Phinizy of Augusta, Ga., and R. Goodwyn Rhett of Charleston, receivers for the Graniteville Manufacturing Company, after a hearing on a petition for a receivership filed Friday by creditors of the company. The receivers, by the terms of the order, will start the mills to operating as soon as possible. Both receivers must file bonds of \$50,000.

The receivers were instructed to pay all taxes and necessary insurance on the property of the Graniteville Manufacturing Company, which includes cotton mills at Vauluse, Graniteville and Hickman, in Aiken county, S. C.

The application for the appointment of receivers was filed by the following Georgia Railroad Bank, the Planters Loan & Savings Bank, Reid & Co., Haines, Morehouse & Woodford; J. B. White, John S. Coskery, Robert Coskery and Emma J. Coskery.

Judge E. H. Callaway, of Augusta, represented creditors having claims aggregating \$500,000; Mr. A. Blackshear of Augusta, represented the Mechanics & Metals National Bank of New York, and the Charleston creditors of the concern were represented by Henry Buist of this city. Col. D. S. Henderson, of Aiken, appeared at the hearing for the mills.

The outstanding debts of the Graniteville Manufacturing Company amount to \$980,000, according to statements made at the hearing. The creditors represented at the hearing had \$730,000 owing to them.

Creditors of the company will be notified, according to the court's decree, that they must present their claims, certified, to D. B. Gilliland, special master, on or before January 1, 1916. The three mills of the Graniteville concern have been closed since October 5th. The receivers will make an inventory of the stock on hand, keep accounts, and report to the court at intervals. In his decree Judge Smith took occasion to state that the condition of the mills appeared hopelessly embarrassed.

Judge Callaway stated that the operation of the mills would be begun on Tuesday. Immediate arrangements will be made for the issuance of receivers' certificates. Judge Callaway stated that he endeavored to have two of the directors of the company appointed receivers, but that the judge declined to appoint any one who was connected with the corporation.

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### Annual Supper at the Anderson Mills.

On Friday evening, December 3, the Anderson (S. C.) Mill management, superintendent, overseers and assistant overseers, will give a supper to the operatives of the mill in the hall. Arrangements are now being made and everything points to a splendid affair.

Giving a supper to the employees is an annual custom at the Anderson mill and the event is always looked forward to with interest. In addition to the supper, several good speakers will be present and will address those present.

On Saturday night following the supper, there will be a skating contest in the hall at the mill and this also promises to be very good. It will be a fancy dress affair and there will be various kinds of contests. These events are always very amusing.

### Thanksgiving Was Observed at the Mills Mill Village.

Saturday afternoon at 3 o'clock Miss Jennie Boyd gave an interesting program for the mothers of the Mills Mill village, Greenville, S. C., at the Y. M. C. A. There was a large attendance and all seem to have enjoyed the Thanksgiving party. Mr. Davis delivered an address on Thanksgiving and after his interesting talk refreshments were served.

As the mill did not close for Thanksgiving, Saturday afternoon and night was given to the employees. There was turkey dinner at the Y. M. C. A. from 12 o'clock until 7 o'clock, after which a motion picture show was given for the employees.

### Big Crowd Packs Church at Celebration of "New Lindale."

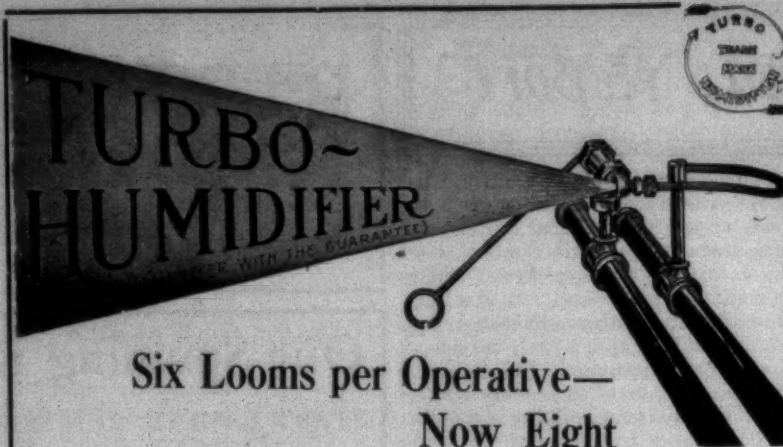
One of the largest crowds that ever assembled at the Lindale (Ga.) Baptist church gathered there last week to celebrate the anniversary of the "New Lindale," to hold a Thanksgiving service, and to hear an address by Capt. Meikleham, which was of unusual interest.

Some time before the services began the church was packed—hardly standing room was available before the service was half completed.

Mr. W. O. Parsons acted as master of ceremonies, and in his usual graceful manner introduced the speakers.

The service, as had been announced, was opened with song and prayer, after which Rev. J. E. Smith, pastor of the Lindale Baptist church, and old-timer about Lindale and pastor of this church for more than 12 years, spoke 15 minutes.

Rev. Claud Hendrix, pastor of the Lindale Methodist church, had seen one year of the "old Lindale" and



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the operative found it possible to run eight—and to run them easier and better than before.

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Carding Lessons for the Mill Boy—Vaughan—Price \$1.00. A practical carder. Written especially for young carders.

Cotton Mill Processes and Calculations—By D. A. Tompkins—Price \$5.00. An elementary text book for textile schools and self-instruction. Every operation in the ordinary cotton mill is explained simply and with the use of illustrations. Contains much information of value to the experienced man. 395 pages; 33 illustrations; cloth.

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CHARLOTTE, N. C.

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## AMERICAN MOISTENING COMPANY

BOSTON, MASSACHUSETTS

WILLIAM FIRTH, President

FRANK B. COMINS, Vice-Pres. and Treas

THE ONLY PERFECT SYSTEM OF AIR MOISTENING  
COMINS SECTIONAL HUMIDIFIER

JOHN HILL, Southern Representative, 1014 Healy Building, ATLANTA, GEORGIA



## MILL NEWS ITEMS OF INTEREST

**Griffin, Ga.**—The Griffin Mfg. Co. has placed orders with the Steel Heddle Mfg. Co., of Philadelphia, Pa., for the loom-harness equipment of their new looms.

**Robersonville, N. C.**—The Robersonville Hosiery Mills have closed down for several weeks. The scarcity of dyestuffs is given as the reason for the shut down.

**Clover, S. C.**—Fire completely destroyed the waste house of the Clover Cotton Mill. It is presumed that the blaze had its origin from defective wiring, although this is not a certainty since it appeared to be well under way before discovered. The building was constructed from sheet iron and the interior was a mass of flames before the alarm was sounded. The cotton mill fire department was called out and kept the fire from spreading to any adjacent building.

**Gainesville, Ga.**—A new knitting mill for supplying the local trade will be opened by B. H. Merck on the first of January.

The capacity of this new mill will be 100 dozen pairs of hose per day.

The first knitting mill was established last year to supply foreign trade with a selling agency in New York. As will be remembered, the capacity of that mill has already been doubled, and still goods are being sold faster than they can be manufactured, which precludes supplying the local trade with products of this home industry.

**Gaffney, S. C.**—At the meeting of the directors of the Gaffney Manufacturing Co., following the annual meeting of the stockholders, which meeting was reported last week, a dividend of two per cent was declared on the common stock and the regular semi-annual dividend of three per cent on the preferred stock. The common stock is \$800,000 and the preferred stock is \$175,000, making a total of \$21,250 to be paid in dividends on January first.

After the salary of President Alfred Moore had been fixed, he voluntarily reduced it \$1,500.

**Edenton, N. C.**—The new addition to the Edenton Cotton Mills is being rapidly pushed to completion. Nine thousand spinning and 5,000 twister spindles will be added, which will bring the total equipment of the mill to 22,000 spinning and 10,000 twisting spindles. All of the new machinery was bought from the Whitin Machine Co. The product will be 26-2 warps and skeins. The management expects to have the new addition in operation by May 1, 1915.

An up-to-date yarn conditioning room will be put in. Electric power will be used. T. R. Morton, superintendent of the present mills, will also have charge of the new mill.

**Union, S. C.**—Monarch Cotton Mills is installing additional machinery, so as to complete the plan for enlargement begun a year or more ago. Some time since the building had been completed. The final installment of machinery, now under way, will give this mill a total of 78,500 spindles, 1,825 looms, and will consume 11,000 to 12,000 bales of cotton per annum.

The contract for the erection of 40 additional houses for operatives has been let to E. B. Cheshire. These houses will be from three to six room houses.

The affairs of this mill are in excellent shape, as was shown at a recent meeting of the stockholders.

**Great Falls, S. C.**—The Republic Cotton Mills has been commissioned by the secretary of state with a capital stock of \$1,200,000. The petitioners are R. S. Mebane, H. B. Mebane, both of Great Falls, and T. B. Butler, of Durham, N. C. The company proposes to build and operate cotton mills at Great Falls. The new company will absorb the present Republic Cotton Mills, which is chartered under the laws of New Jersey. The mill will go into the new company at a value of \$600,000 and the rest of the capital stock

of \$1,200,000 will be paid in by stockholders in cash.

The Republic Cotton Mills will build another mill, 40,000 spindles and 1,000 looms, the details of which were announced in October as previously noted.

### Graniteville (S. C.) Manufacturing Co. Put in Hands of Receivers.

The Graniteville Manufacturing Company was put in receivers' hands Saturday. Jacob Phinizy of Augusta, Ga., and R. G. Rhett, of Charleston, S. C., are the receivers.

The receivers are empowered to start the mills at once. It was the understanding in Charleston that all three of the factories would be put in operation Tuesday. In Augusta, however, no information to that effect was available.

The position taken by some of the northern creditors made impossible the proposed reorganization plans, whereby the creditors, with the cooperation of the stockholders, were to operate the property for such length of time as was deemed necessary.

These reorganization plans having fallen through, Judge E. H. Callaway made application for a receivership Saturday before Judge H. A. M. Smith, in the United States court,

at Charleston. Mr. Phinizy and Mr. Rhett were named receivers, and, as stated, they were empowered by the court, to start the company's three mills at once.

At the hearing in Charleston Judge Callaway represented creditors presenting claims aggregating \$500,000 against the mills. Other creditors were also represented.

In the United States district court Judge Henry A. M. Smith appointed Jacob Phinizy of Augusta, Ga., and R. Goodwyn Rhett of Charleston, receivers for the Graniteville Manufacturing Company, after a hearing on a petition for a receivership filed Friday by creditors of the company. The receivers, by the terms of the order, will start the mills to operating as soon as possible. Both receivers must file bonds of \$50,000.

The receivers were instructed to pay all taxes and necessary insurance on the property of the Graniteville Manufacturing Company, which includes cotton mills at Vaucluse, Graniteville and Hickman, in Aiken county, S. C.

The application for the appointment of receivers was filed by the following Georgia Railroad Bank, the Planters Loan & Savings Bank, Reid & Co., Haines, Morehouse & Woodford; J. B. White, John S. Coskery, Robert Coskery and Emma J. Coskery.

Judge E. H. Callaway, of Augusta, represented creditors having claims aggregating \$500,000; Mr. A. Blackshear of Augusta, represented the Mechanics & Metals National Bank of New York, and the Charleston creditors of the concern were represented by Henry Buist of this city. Col. D. S. Henderson, of Aiken, appeared at the hearing for the mills.

The outstanding debts of the Graniteville Manufacturing Company amount to \$980,000, according to statements made at the hearing. The creditors represented at the hearing had \$730,000 owing to them.

Creditors of the company will be notified, according to the court's decree, that they must present their claims, certified, to D. B. Gilliland, special master, on or before January 1, 1916. The three mills of the Graniteville concern have been closed since October 5th. The receivers will make an inventory of the stock on hand, keep accounts, and report to the court at intervals. In his decree Judge Smith took occasion to state that the condition of the mills appeared hopelessly embarrassed.

Judge Callaway stated that the operation of the mills would be begun on Tuesday. Immediate arrangements will be made for the issuance of receivers' certificates. Judge Callaway stated that he endeavored to have two of the directors of the company appointed receivers, but that the judge declined to appoint any one who was connected with the corporation.

# Starch

### THIN BOILING STARCH

Penetrates the warp, adds weight, increases the strength. We manufacture thin boiling starch for sizing and finishing in varying degrees of fluidity according to the requirements of manufacture.

For full information address

Corn Products Refining Co.,

New York City

SOUTHERN OFFICE

Greenville, South Carolina.

# Starch



### Annual Supper at the Anderson Mills.

On Friday evening, December 3, the Anderson (S. C.) Mill management, superintendent, overseers and assistant overseers, will give a supper to the operatives of the mill in the hall. Arrangements are now being made and everything points to a splendid affair.

Giving a supper to the employees is an annual custom at the Anderson mill and the event is always looked forward to with interest. In addition to the supper, several good speakers will be present and will address those present.

On Saturday night following the supper, there will be a skating contest in the hall at the mill and this also promises to be very good. It will be a fancy dress affair and there will be various kinds of contests. These events are always very amusing.

### Thanksgiving Was Observed at the Mills Mill Village.

Saturday afternoon at 3 o'clock Miss Jennie Boyd gave an interesting program for the mothers of the Mills Mill village, Greenville, S. C., at the Y. M. C. A. There was a large attendance and all seem to have enjoyed the Thanksgiving party. Mr. Davis delivered an address on Thanksgiving and after his interesting talk refreshments were served.

As the mill did not close for Thanksgiving, Saturday afternoon and night was given to the employees. There was turkey dinner at the Y. M. C. A. from 12 o'clock until 7 o'clock, after which a motion picture show was given for the employees.

### Big Crowd Packs Church at Celebration of "New Lindale."

One of the largest crowds that ever assembled at the Lindale (Ga.) Baptist church gathered there last week to celebrate the anniversary of the "New Lindale," to hold a Thanksgiving service, and to hear an address by Capt. Meikleham, which was of unusual interest.

Some time before the services began the church was packed—hardly standing room was available before the service was half completed.

Mr. W. O. Parsons acted as master of ceremonies, and in his usual graceful manner introduced the speakers.

The service, as had been announced, was opened with song and prayer, after which Rev. J. E. Smith, pastor of the Lindale Baptist church, and old-timer about Lindale and pastor of this church for more than 12 years, spoke 15 minutes.

Rev. Claud Hendrix, pastor of the Lindale Methodist church, had seen one year of the "old Lindale" and



## Six Looms per Operative— Now Eight

In a mill running on plain print goods a weaver ran six looms. After the installation of

### THE TURBO HUMIDIFIER

the operative found it possible to run eight—and to run them easier and better than before.

This must mean not only more production, but the production of a better article with a less percentage of seconds.

Any good humidifier will be of efficient service in this direction. The Turbo will prove fully the simplest, easiest way to produce guaranteed humidity.

### THE G. M. PARKS CO.

Fitchburg, Mass.

Southern Office Commercial Building, Charlotte, N. C.

J. S. COTHRAN, Manager.

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## Cotton Goods Report

New York.—Cotton goods markets were strong during last week and inquiries for goods were plentiful. Evidences of a broadening demand and distribution have been so numerous that cotton goods men feel that values will not go lower even if the price of raw cotton declined. Prices opened very firm last week and showed a rising tendency, especially on gray goods and brown goods. Print cloths, convertibles and domestic were all firmer than during the preceding week. Some of the largest dress goods mills, making staples for spring, have booked so many orders that they are unable to take any new business for delivery before April 1st.

In the South, jobbing houses handling cotton goods, are asking for additional goods for spot and nearby delivery, indicating that distribution is now very active. Mail orders for advance goods, especially in wash fabrics, have been large. The inquiry for staple goods is very general. At this period of the year, primary merchants do not expect much business, as it is inventory time with the jobbers and they are usually supplied with enough goods to carry them into the holiday trade. However, merchants have been surprised with requests to anticipate delivery on goods not due until January.

Trading was slow for the last few days of the week, owing to the break caused by the holiday. According to many reports here, cotton is less of a factor in naming prices than the dyestuff situation. Many of the lines of fine goods are held at very high prices, and the cause of these prices is found in the extraordinary conditions prevailing in dyes and chemicals. Very high prices are being paid for dyes that are offered and finishers and dyers are now asking prices for future work that will come somewhere near meeting the cost of replacement when they have to purchase dyestuffs. In many cases converters are asked for 50 per cent of the cost of gray goods for finishing them.

The export trade in cotton goods with the large Far Eastern ports is very dull. Shipments on old orders are being made steadily, and Red Sea traders say business in their territory is active, more particularly in Africa. But the new prices on goods preclude the likelihood of additional business in the near future. Occasionally a small order filters in from China, India is buying little but is taking goods due when ships can be found to transport them. The miscellaneous export trade is active. The Philippine market is dull now, although it is well stocked, and most of the new business is coming from the West Indies and South America. South American countries are buying more liberally for future delivery, and in several instances it is well established that a fair amount of the new business entered into will stick after the war.

The Fall River print cloth market showed signs of increasing strength last week. The general tone of the market was better and actual sales were larger than they have been in several weeks, in spite of the holiday. Manufacturers do not expect an immediate spurt but rather a gradual strengthening and increase in the volume of trade up to the first of the year. They expect a real period of activity with the coming of the new year.

Prices on cotton goods were quoted in New York last week as follows:

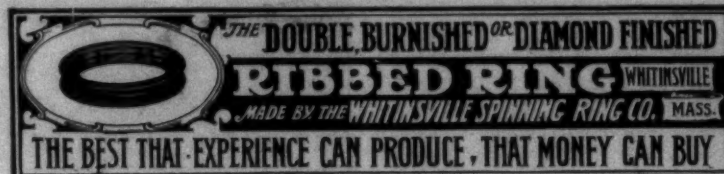
Print cloth, 28-in., std	3 5-8	—
28-inch, 64x60s	3 1-2	—
Gray goods, 39-inch		
68x72s	5 1-2	—
38 1-2-inch, 64x64s	4 3-4	—
4-yard, 80x80s	6 1-4	—
Brown drills, std	7 1-2	—
Sheetings, So., std	7 1-4	—
3-yard, 48x48s	7 1-4	—
4-yards, 56x60c	5 3-4	—
4-yard, 48x48s	5 1-4	—
4-yard, 44x44s	5 1-2	—
5-yard, 48x48s	4 3-4	—
Denims, 9-ounce	14 1-2	—
Selkirk, 8-oz., duck	12 1-2	—
Oliver, Extra, 8-oz.	12 1-2	—
Hartford, 11-oz., 40-		
inch duck	15 3-4	—
Woodberry, said d'k.	20%	—
Mt. Vernon, wide d'k.	12 1/2%	—
Ticking, 8-ounce	12 1-2	—
Standard prints	5 1-2	—
Standard gingham	6 3-4	—
Fine dress gingham	7 1-2	8 3-4

### R. A. Lee & Co. Make Estimate of Cotton Crop.

R. A. Lee & Co., of Charlotte, have issued their estimate as to the cotton crop of 1915, which is given below. The reputation of this well known local firm as accurate forecasters of the cotton crop and other feature cotton "conditions" has been firmly established for years. The estimate follows:

"Below we give you our estimate of the cotton crop this season 1915-1916 for the actual growth including linters, 12,355,500 bales."

States.	Bales.
Alabama	1,250,000
Arkansas	915,000
California	80,000
Florida	81,000
Georgia	2,115,000
Kentucky	1,500
Louisiana	420,000
Missouri	70,000
Mississippi	1,130,000
North Carolina	890,000
Oklahoma	795,000
South Carolina	1,118,000
Tennessee	340,000
Texas	3,100,000
Virginia	10,000
Nev., New Mex. and Ariz.	40,000
	12,355,500
Less linters	750,000
	11,605,500



**Our Spinning Rings** SINGLE OR DOUBLE FLANGE  
START EASIEST, RUN SMOOTHEST, WEAR LONGEST  
**Pawtucket Spinning Ring Co.**  
CENTRAL FALLS, R. I.

## RICHARD A. BLYTHE

(INCORPORATED)

Cotton Yarns Mercerized and Natural

ALL NUMBERS

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Sizings and Finishings

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FOR ALL TEXTILES.

## The Desirability of the South

as the place to manufacture cotton goods is illustrated in the increase of 67% quoted by census department. We can offer attractive situations for those desiring to enter this field.

## J. A. PRIDE

General Industrial Agent Seaboard Air Line Railway

NORFOLK, VIRGINIA.

## You Can Reduce Weaving Costs

Send us a worn shuttle with completely filled bobbin and state kind of goods woven and name of loom. These will explain your needs and help us to design an efficiency shuttle for your requirements. This shuttle has the approval of loom builders and weaving experts. It should help you to weave better fabric at a lessened expense.

## SHAMBO SHUTTLE COMPANY

Woonsocket, R. I.



# The Yarn Market

Philadelphia, Pa.—Last week was an active one in the yarn market here, there being a good demand for yarns for both prompt and future deliveries. Dealers said it was the best week that they had had for many months. There were a number of sales of as much as 300,000 pounds. Weavers outside of the local market took a large quantity of yarn, and knitters in other markets also bought considerable quantities. The receipts of yarn from the South were good, and deliveries were prompt. Mills making many of the staple numbers have booked sufficient business to keep them busy for two or three months, and are not anxious to take new orders except at their own prices.

The hosiery trade is in good shape and the demand for hosiery is strong and steady. Some of the mills making the finer grades are behind in their deliveries. The demand is principally for the carded, combed and mercerized hosiery, with the cheaper lines in good demand as well as the finer lines. There were good sales of carded knitting yarns last week, to both underwear and hosiery manufacturers. Heavy weight underwear mills bought large quantities of yarns during the week, most of the sales being for prompt deliveries. There was some inquiry for yarn for next season, but mills are not inclined to sell very far ahead.

The demand for two-ply combed yarn is steady and prices on these yarns are very firm. The demand for yarns from the automobile tire makers has been in extremely large proportions, and the same is true of mercerizing and other lines. Southern spinners are well sold ahead and are not anxious for new business at this time. The demand for single combed yarns is good in spots, but these yarns have not been nearly so active as the two-ply.

During last week, spinners made some sales at the prices quoted in this market, but as a rule, their quotations are still above the local market price. Prices fluctuated very little during the week, and were generally very firm. Dealers expressed the opinion that yarn prices are now as low as they will be this season, and expect them to go much higher in the spring. This view is based on the improved demand for yarns and the strong probability that cotton will be much higher after the first of the year.

## Yarn Quotations.

The following prices were quoted in New York on Monday, Nov. 30:

Two-Ply Southern Skeins.		
4s to 8s	17	—19
10s to 12s	19	—20
14s	20	—20
16s	20	—
20s	21	—
24s	22 1-2	—23
26s	24	—
30s	25	—25 1-2
36s	31	—32

40s	32	—34
50s	41	—42
60s	48	—49
3-ply 8c upholstery	19 1-2	—
4-ply 3s upholstery	19 1-2	—

## Southern Single Skeins.

4s to 8s	17	—19
10s to 12s	19	—20
14s	20	—20 1-2
16s	20 1-2	—21
20s	21	—
22s	22 1-2	—
24s	22 1-2	—
26s	23	—
30s	25	—26
40s	33	—

## Southern Single Chain Warps.

10s to 12s	19	—19 1-2
14s	19	—19 1-2
16s	26	—
20s	20	—
22s	21	—21 1-2
24s	22	—
26s	23	—
30s	23 1-2	—24
40s	26	—
	34	—35

## Southern Two-Ply Chain Warps.

8s to 10s	19	—21
12s	21	—
14s	21	—22
16s	22	—22 1-2
20s	22	—
26s	24 1-2	—
30s	25 1-2	—
36s	32	—
40s	33	—34
50s	41	—42

## Southern Peeler Frame Cones.

8s	19	—
10s	19 3-4	—
12s	20 1-4	—
14s	20 1-2	—
16s	20 3-4	—
18s	21	—
20s	21 1-2	—
22s	21 1-2	—22
24s	22 1-2	—23
26s	24	—
30s	25 1-2	—26
22s Fleece col.	22	—22 1-2

## Eastern Carded Cops.

10s	22	—
11s	22 1-2	—
12s	22 1-2	—
14s	23	—
16s	23 1-2	—
18s	24	—
20s	24 1-2	—
22s	25	—
24s	25 1-2	—
26s	26 1-2	—
28s	27 1-2	—
30s	29	—

## Eastern Carded Peeler Skeins and Warps.

20s 2-ply	27	—
22s 2-ply	27 1-2	—
24s 2-ply	29	—
26s 2-ply	30	—
30s 2-ply	31 1-2	—33
40s 2-ply	35	—37
45s 2-ply	36 1-2	—39
45s 2-ply	46	—48

## Use and Abuse of Roller Bearings.

(Continued from Page 5.)

its form it adheres firmly to the bearing surfaces, and because of its toughness it forms an enduring film.

Another vital point to be considered in ball and roller bearing or automobile lubrication is that some lubricants that may serve splendidly at a normal temperature will lose their lubricating quality at high temperatures or become stiff at very low temperatures; for instance, it has been determined that some automobile lubricants of a certain grade were satisfactory in summer time, while they absolutely failed during the winter time in colder parts of the country. Therefore, all oils or greases should be tested and guaranteed not to change their composition or viscosity at high or very low temperatures.

Drawing the conclusion from the foregoing explanations and experiences, the selection, mounting and lubrication of ball or roller bearings in automobiles or the like, need close attention in order to secure the proper operation of the gears and all other rotating parts. When there are signs of trouble, it is advisable to inspect the bearings to find out if they are properly mounted and lubricated. If the cause of the trouble cannot be detected it will be well to consult the ball or roller bearing maker, as in some cases it needs all the experience of an expert in this line to detect the real cause of the trouble. A correction in time will prevent any serious damage.—Franz J. Jarosh in "Graphite" (Jos. Dixon Crucible Co.)

## American Dyestuffs Show Increase

Washington—No dyestuffs of German origin have been received in the United States since March 15, 1915, according to information obtainable from the Bureau of Foreign and Domestic Commerce; and the prevailing shortage of dyestuffs is making itself felt more and more acutely every day.

Although permission has been granted by the British Government for the free passage of two steamerloads of coal tar dyestuffs of German origin to the United States, the embargo by the German Government prohibiting the shipment of these dyes except in return for a supply of American cotton of equal value has not yet been raised.

The year 1915 has witnessed a large increase in the production of American coal-tar dyestuffs, which are now coming at the rate of approximately 9,000 short tons per annum. Sixteen months ago the rate was 3,000 tons. It is now confidently expected that by the end of 1916 the output will reach 16,000 tons.

The following statement is made with regard to efforts in the United States to secure the dyes:

"Nearly all of the retort coke ovens in the United States are now supplied with the necessary equipment for rescuing benzol and toluol, which serve as raw materials for the manufacture of coal-tar dyestuffs. Unfortunately, the demand of manufacturers of high explosives for these two hydro-carbons is so urgent that their prices still remain at very high figures.

## CAROLINA, CLINCHFIELD & OHIO

"The Clinchfield Route"

## RAILWAY

and  
Carolina, Clinchfield & Ohio Railway  
of South Carolina.

EFFECTIVE AUGUST 9, 1915.

Eastern Standard Time

## Southbound

Lv. Elkhorn City, Ky.	3:00
Lv. Haysi, Va.	3:37
Lv. Fremont, Va.	4:10
Lv. Dante, Va.	4:55 *8:30
Lv. St. Paul, Va.	5:30 8:52
Lv. Speer's Ferry, Va.	7:25 10:17
Lv. Johnson City, Tenn.	9:30 11:45
Ar. Erwin, Tenn.	*10:30 *12:25
Lv. Erwin, Tenn.	5:00 *12:35
Lv. Kona, N. C.	7:18 2:04
Lv. Altapass, N. C.	8:10 2:45
Lv. Marion, N. C.	9:50 3:55
Lv. Bostic, N. C.	11:33 4:57
Ar. Spartanburg, S. C.	5:30 *6:05

## Northbound

Lv. Spartanburg, S. C.	5:45 *11:00
Lv. Bostic, N. C.	6:09 12:10
Lv. Marion, N. C.	7:05 1:05
Lv. Altapass, N. C.	8:20 2:20
Lv. Kona, N. C.	8:57 3:03
Ar. Erwin, Tenn.	*10:30 *4:30
Lv. Erwin, Tenn.	*7:45 *4:35
Lv. Johnson City, Tenn.	8:30 5:15
Lv. Speer's Ferry, Va.	10:35 7:02
Lv. St. Paul, Va.	12:17 8:30
Lv. Dante, Va.	12:40 *8:50
Lv. Fremont, Va.	1:25
Lv. Haysi, Va.	1:55
Ar. Elkhorn City, Ky.	*2:30

\*—Daily.

A. M. light face type.

P. M. heavy face type.

Patrons are requested to apply to nearest agent for definite information, or to

CHAS. T. MANDEL,  
Asst. Gen'l. Pass. Agent.

J. J. CAMPION,  
V.-Pres. and Traffic Mgr.,  
John City, Tenn.

"About a dozen plants are now engaged in the production of coal-tar intermediates, which serve for the manufacture of finished dyestuffs. Their output is being constantly increased. The seven different firms regularly engaged in the manufacture of coal-tar dyestuffs are increasing each day their output of completed coloring materials. A notable feature is the rapid introduction of small aniline plants into various textile mills. These plants manufacture 100 pounds a day of aniline, or more. They are of especial value for hosiery works, as the bulk of hosiery is dyed black. Aniline black is now used very extensively in place of sulphur black formerly entirely in vogue for this purpose.

"The American production of synthetic indigo is small, but is distinctly helpful in relieving the general shortage. The output will be notably increased in the early future.

"The use of natural dyes in place of synthetic colors is rapidly increasing on every hand. Methods are being perfected to insure a much higher degree of fastness than was formerly deemed possible.

"There is increased interest in the use of the American native dyestuff isolated from Osage Orange, which is found to replace most admirably fustic.

"There is an increased confidence among both manufacturers and consumers of dyestuffs that at an early date legislation may be secured from Congress which will give the necessary security to American manufacturers of synthetic colors.



## Personal Items

Geo. C. McGregor has resigned as superintendent of the Postex Cotton Mills, Post City, Texas.

T. A. Swing, overseer of carding at Nakomis Mills, Lexington, N. C., has taken charge of the carding also.

F. W. Gurry has resigned as general manager of the Postex Cotton Mills, Post, Texas, and is now located in Atlanta, Ga.

T. A. Robinson and A. A. Mas-Whinnie are now superintendents of the Postex Cotton Mills, Post City, Texas.

J. L. Powers has been transferred from night spinner to day spinner at Southside Mills, Winston-Salem, N. C.

## YOUR Rush Orders for Loom Harnesses Quickly Filled.

We always keep our facilities for making loom harnesses in excess of our ordinary requirements so that we may be able to promptly fill orders for harnesses which are wanted in a hurry.

These hurry up orders take precedence over all others and are always delivered at the time specified in the order.

The harnesses on which we have but a limited time are not as good as those which are made in the usual manner but we can get a remarkably good harness in a very short time.

Try us for your next rush order.

**GARLAND  
MFG. CO.**  
Saco, Maine



J. E. Campbell, of Arkwright Mills, Spartanburg, S. C., has accepted position of second hand in carding at the Nakomis Mills, Lexington, N. C.

F. F. Ferguson has resigned as second hand in carding and electrician at Jewell Mills, Thomasville, N. C., to accept a position at Kanapolis, N. C.

T. L. Gossett of Pacolet Mfg. Co., Trough, S. C., has accepted a position as second hand in spinning room at the Whitney Mfg. Co., Whitney, S. C.

### Killed With Quart Bottle.

W. H. Hall, aged 69 years, a drayman of Columbus, Ga., was killed almost instantly as the result of a blow over the heart with a quart bottle in the hands of Lum Wilkerson. The latter was employed on the night force of the Meritas Mills. It is said that Wilkinson had been drinking heavily. He climbed upon Hall's dray, it is alleged, and when the latter remonstrated with him, the two men quarreled for a few minutes and then Wilkinson struck the blow which killed Hall. Wilkinson has not been captured.

### Tribute of Respect to T. Perrin Wardlaw.

The body of T. Perrin Wardlaw of Augusta, Ga., who died a few days ago, was carried from Augusta on the Charleston & Western Carolina Railroad Monday morning. The burial took place in Abbeville, S. C.

When the car on which the body had been placed was passing the manufactory of the Enterprise Manufacturing Company the works were shut down, the machinery and plant remaining idle until the train had passed out of sight.

Mr. Wardlaw had been associated with the Enterprise company for a generation, and he was well beloved and regarded by all those attached to that industrial enterprise. The attention shown his remains by the people of the plant was a delicate one, and a touching tribute.

The funeral party on the train knew of the act of respect. For W. C. Wardlaw, for the family, telegraphed from Greenwood to Superintendent George Lynch in deep appreciation for the compliment and respect shown by the people of the mill for the deceased.

### Queer Advertisements

Wanted—A furnished room by an old lady with electric lights.

Wanted—A room by a young gentleman with both kinds of gas.

Wanted—A room by a young gentleman with double doors.

Wanted—A man to take care of horses who can speak German.

Wanted—Saleslady in corsets and underflannels.

Wanted—Lady to sew buttons on the second story of Smith & Brown building.

Wanted—A dog by a little boy with pointed ears.

Wanted—A nice young man to run a pool room out of town.

Wanted—A boy who can open oysters with a reference.

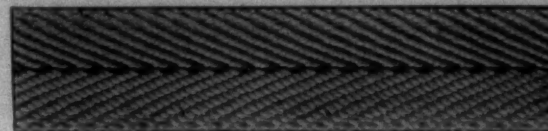
## AMERICAN TEXTILE BANDING CO., Inc.

Manufacturers of

Spindle Tape

• And

Bandings



Third and Moore Street,

PHILADELPHIA, PA.

## GRID BARS

When in need of Grid Bars of any kind---adjustable or fixed---let us hear from you. 60 days free trial anywhere.

ATHERTON PIN GRID BAR CO.

Providence, R. I.

## Rings, Spinning and Twister, Singles or Doubles

OF THE BEST MAKE

If you are changing to a larger or smaller ring we can furnish you RINGS WITH BASE EXPANDED OR CONTRACTED TO FIT YOUR OLD HOLDER.

Satisfaction Guaranteed. Write for Prices

**Southern Spindle and Flyer Co.**  
CHARLOTTE, N. C.

W. H. Monty, Pres. & Treas. W. H. Hutchins, V.-Pres & Sec'y



Reg. U. S. Pat. Off.



Reg. U. S. Pat. Off.

## Arabol Gum G.

- A. Attracts Moisture and Softens the Yarn.
- R. Retains the Moisture, Making the Yarn More Pliable.
- A. Adds Strength and Elasticity.
- B. Boils Thin; Thereby Penetrating the Yarn.
- O. Opens the Yarn. Preventing Break-Backs.
- L. Lays the Fibre.

TRIAL ORDERS SHIPPED ON APPROVAL — ESPECIALLY VALUABLE IN HOT DRY WEATHER.

**ARABOL MANUFACTURING COMPANY**

100 WILLIAM STREET, NEW YORK CITY

CAMERON MacRAE, Southern Sales Agent CHARLOTTE, N. C.

## PROPER LOCATIONS FOR MILLS.

United States Census figures show that since 1850 the consumption of cotton in mills of the cotton growing States has increased 1,502 per cent, as compared with an increase of only 93 per cent in all other states. In the twelve months ended August 31, 1914 Southern mills consumed 162,097 more bales of cotton than the mills of all other States. Three-fourths, or 9,000,000, of the total cotton spindles in the cotton growing States are tributary to Southern Railway tracks. Of the 200 knitting mills in the South over 125 are located along the Southern Railway. Nearly all the Southern woolen and silk mills are also on Southern Railway tracks.

There is a reason for this, and it is not difficult to understand.

The Southern Railway Lines enter and serve most completely those portions of the South where the textile industry is the greatest success, because there are found all the conditions which makes for successful manufacture—the proper transportation facilities, the ease with which the raw material and the needed fuel may be secured, the supply of good labor, the pure water, the low cost of power, and favorable local conditions.

Not only for textile plants but for all other industries the best advantages will be found in this territory.

If you have a plant to locate, let us take up with you the question of the proper location. Your plans will be held confidential. Our knowledge of conditions at various points and our experience in locating other mills and the time of our agents in making special investigations are at your service if desired.

**M. V. RICHARDS, Industrial and Agricultural Commissioner,**  
Southern Railway,

Room 129,

Washington, D. C.



# Want Department

## Want Advertisements.

If you are needing men for any position or have second hand machinery, etc., to sell the want columns of the **Southern Textile Bulletin** afford the best medium for advertising the fact.

Advertisements placed with us reach all the mills and show results.

## Employment Bureau.

The Employment Bureau is a feature of the **Southern Textile Bulletin** and we have better facilities for placing men in Southern mills than any other journal.

The cost of joining our employment bureau is only \$1.00 and there is no other cost unless a position is secured, in which case a reasonable free is charged.

We do not guarantee to place every man who joins our employment bureau, but we do give them the best service of any employment bureau connected with the Southern textile industry.

## Help Wanted.

Hands wanted for night run, beginning December 10th. Work five nights, pay for six.

Millen Cotton Mills,  
Millen, Ga.

## For Sale.

- 1 Deep Well Pump.
- 1 Triplex Pump, heavy duty.
- 1 Air Compressor, 100 to 125 lbs.
- 1 Air Compressor for Dry Pipe System.

Gray Mfg. Co.,  
Gastonia, N. C.

## Second Hand Wanted.

Second hand for a 15,000 spindle mill spinning room on high-grade hosiery yarns. Pay \$10.50 per week. Two section hands an an oiler on job with you. Good chance for promotion, if you prove yourself to be a good man. Healthy city, not many miles from Charlotte, N. C. Must give best of reference in regard to character and ability. Address Second Hand, care Southern Textile Bulletin.

## For Sale.

150 feet 3-inch and 3 1/2-inch shafting with hangers, in perfect condition, J. & L. latest pattern.

15 idler pulleys, 30-inch diameter, 4-inch face.

15 pulleys 30-inch diameter, 4-inch face, 3 and 3 1/2-inch bore.

Gray Mfg. Co.,  
Gastonia, N. C.

## For Sale.

1 Denn Warper in perfect condition. Has been run eighteen months. 2,600 ends, single linker.

Gray Mfg. Co.,  
Gastonia, N. C.

WANT position as superintendent or overseer of carding and spinning. Long experience and am now employed. Can furnish satisfactory references. Address No. 1259.

WANT position as overseer of weaving at not less than \$3.00 per day. Now employed and give satisfaction but prefer different kind of job. Address No. 1260.

WANT position as overseer of carding or spinning or both. Have had long experience and can furnish best of references both as to character and ability. Address No. 1261.

WANT position as carder or spinner. Now employed at night and give satisfaction but want day job. Can furnish good references. Address No. 1262.

A THOROUGHLY COMPETENT AND ENERGETIC YOUNG SUPERINTENDENT OF 30 YEARS WANTS larger position. Am practical and capable of giving good service on either plain, fancy or colored goods. Will be pleased to submit references and correspond with any good size mill needing a man. Address No. 1263.

WANT position as engineer and master mechanic. 15 years experience in engine room and shop. Am employed at present but desire to change. Good references. Address No. 1264.

WANT position as superintendent of large mill. Now employed in good size mill and give entire satisfaction but want larger job and am competent to handle one. Address No. 1265.

WANT position as superintendent of yarn mill. Have had long experience and can furnish best of references from former employers. Address No. 1266.

POSITION as superintendent wanted by a practical mill man. Have had 14 years experience as superintendent and thoroughly understand all details connected with the manufacturing of cotton goods. Can give A-1 references as to ability and character. Address No. 1267.

WANT position as mill machinist or master mechanic. Understand cotton mill work and all kinds of brazing. Now employed. Good references. Address No. 1268.

WANT position as superintendent or overseer of large weave room. Have had long experience and

handled some of the most successful mills in the South. Can furnish good references and get results. Address No. 1269.

WANT position as overseer of spinning. Am now employed and giving satisfaction, but want better mill. First class references. Address No. 1270.

WANT position as superintendent or office man. Besides having long experience as superintendent, as a thoroughly experienced bookkeeper and accountant. Address No. 1271.

WANT position as superintendent. Prefer a yarn mill. Age 39. Strictly sober. Have held present position six years and can furnish first-class references. Address No. 1272.

WANT position as overseer of carding. Would accept second hand in a large mill. Now employed and have had long experience. Best of references. Address No. 1273.

WANT position as superintendent of yarn mill or as overseer of carding. 12 years experience as overseer and can get results. Married and strictly sober. Address No. 1274.

WANT position as overseer of spinning. Have had long experience and have run large rooms successfully. Can furnish best of references. Address No. 1275.

WANT position as superintendent, overseer of weaving or traveling salesman. Have had experience in such positions and can furnish good references. Address No. 1276.

WANT position as bookkeeper or office man in cotton mill. Eight years experience in cotton mill office work and at present have charge of a mill office. Best of references. Address No. 1277.

AN EXPERIENCED MAN wishes to correspond with a mill that needs a superintendent that can get results. Age 3. Married. Held last position nine years. Gilt edged references. Address No. 1278.

WANT position as superintendent, or carder and spinner. Especially experienced in card room. Can give fine references and good reason for wanting to change. Address No. 1279.

WANT position as carder in large mill or superintendent of small mill on hosiery yarns. Now employed and giving satisfaction, but prefer to change. Good references. Address No. 1280.

WANT position as chief engineer and master machinist. 12 years experience. Strictly sober. Good manager of help and can keep plant in tip-top shape at low cost. Address No. 1281.

WANT position as master mechanic. 20 years experience and can furnish fine references. Have 2 dofers and 1 spinner. Am strictly sober. Address No. 1282.

# PATENTS

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Send your business direct to Washington. Saves time and insures better service.

Personal Attention Guaranteed

30 Years Active Service

## SIGGERS & SIGGERS

Patent Lawyers

Suite 34 N. U. Washington, D. C.

WANT position as superintendent or overseer of spinning. Age 38. Held last position five years and can furnish very satisfactory references from South Carolina mills. Address No. 1283.

WANT position as carder and spinner. Now employed but have good reasons for desiring to change. Can get results and can give present employers as references. Address No. 1284.

WANT a position as overseer in small spinning room, or second hand in larger room. Have had ten years experience in spinning and spooling. Age 30. Married strictly sober. Address No. 1285. and strictly sober. Address No. 1285.

WANT position as overseer of spinning, spooling, warping and slashing. Have 15 years experience in that line. Married. Can give good references. Address 1286.

WANT position as overseer of spinning or as second hand in large room. Experienced on 4s to 60s, warp, hosiery and mercerizing yarns, single and ply. Married. Age 39. Can furnish references as to ability and character. Address No. 1287.

WANT position as chief engineer or master mechanic. Have 12 years experience and am now employed, but wish to change. Address No. 1288.

WANT position as overseer of weaving. Now employed, but want larger job. Have had long experience as overseer spinning and class of references. Address No. 1289.

WANT position as superintendent or overseer of spinning. Now employed and giving satisfaction but not satisfied with location of mill. Have experience both as overseer and superintendent. Address No. 1290.

WANT position as Superintendent or overseer of spinning. Ten years as overseer. 5 years as Superintendent of Eastern mill. Can furnish good references and would like to locate in the South. Address No. 1291.

WANT position as overseer of spinning or spinning and winding. Would take carding and spinning at night. Have had 8 years experience as overseer spinning and can give satisfactory references. Address No. 1292.



WANT position as superintendent. Have had long experience both as superintendent of yarn and weaving mills and am a good manager of help. Can furnish best of references. Address No. 1293.

WANT position as superintendent or overseer of spinning or overseer of twisting in a duck mill. Have had long experience as overseer and can handle any size room. Address No. 1294.

WANT position as overseer of cloth room. Now employed but want larger room. Age 29. Have common school and Business College education. Can furnish the very best of references. Address No. 1296.

WANT position as superintendent of small mill or overseer carding or spinning, or both, in large mill. Long experience in the mill. Employed at present. Good references. Address No. 1297.

A PRACTICAL mill man wants position as superintendent in a small card room or as carder and spinner in a large mill. Best of references as to work and character. Am now employed as carder, but can change on short notice. Address No. 1298.

WANT position as spinner or carding and spinning. Long experience in cotton manufacturing. Am a competent, energetic young man of 32 years. 22 years in carding and spinning. Am also technical graduate and hold diploma. Now employed as overseer spinning in large mill. Can change on 12 days notice. References. Address No. 1299.

WANT position as superintendent. Have long experience. Am now employed and always gave satisfaction. Reason for changing is better salary. Age 45. Married. Strictly sober. Experienced from ground up on both white and colored work. Address No. 1300.

WANT position as overseer of large room in small mill. 40 years old. Sober, good manager of help and best of references. Getting results is a habit with me. Address No. 1301.

WANT position as carder or spinner or both. Age 45. Married. Strictly sober. Have 20 years experience. Address No. 1302.

WANT position as superintendent of yarn mill or overseer of spinning in a large mill. At present am superintendent. Very wide experience. References from past and present employers. Address No. 1303.

WANT position as assistant superintendent or overseer. Now employed, but would change for larger job. Address No. 1304.

WANT position as superintendent. Have had long experience and have run some of the best mills in the South. Have always made

money for my mills. Satisfactory references. Address No. 1305.

WANT position as superintendent or overseer of spinning. Have been on present job three years and am giving satisfaction, but want location where there are better schools. Present employer as my reference. Address No. 1306.

WANT position as overseer of spinning. Best of references as to character and ability as a spinner. Now employed but desire to change. Address No. 1307.

WANT position as superintendent or overseer of spinning. Am a practical man 40 years old. Married. Strictly sober. Experienced from picker to cloth room on white or colored goods. Can furnish good references as to ability and character. Address No. 1308.

WANT position as superintendent. Am an Eastern man of long experience but desire to move to the South. Can furnish the best class of references. Address No. 1309.

WANT position as overseer of carding or as superintendent. Have 20 years experience in mill. 9 years as second hand and overseer of carding. Age 38. Married. Sober. Now employed. Good references. Address No. 1310.

WANT position as overseer of spinning and winding. Have 12 years experience as overseer. Age 35. Strictly sober. Good manager of help. Now employed. Good references. Address No. 1311.

WANT position as overseer of weaving on Draper or plain looms. Now employed as second hand. Age 32. Married. Good manager of help. Hustler for production. Address No. 1312.

WANT position as superintendent or as carder and spinner. Have had long experience in large mills and furnish best of references. Address No. 1314.

WANT position as overseer of cloth room. 10 years experience. 35 years old and married and strictly temperate. Am now employed but desire to make a change. Best of references. Address No. 1313.

WANT position as overseer of spinning or weaving, either plain or fancy. Long experience. Now employed. Can furnish fine reference. Address No. 1315.

POSITION WANTED as superintendent, by practical man of executive ability. Fully capable of managing mill. 8 years as overseer of weaving in largest mill in S. C. 3 years experience as superintendent. Now employed as superintendent. Can give present and all former employers as reference. Address No. 1316.

WANT position as superintendent or carder or spinner. Now employed, but prefer to change. Have long experience and can furnish best of references. Address No. 1317.

WANT position as superintendent of yarn mill or carder. Long practical experience on all classes of yarn from 4s to 180s. Also experienced on automobile tire fabrics. Address No. 1318.

WANT position as book-keeper. Am capable, experienced young man of good habits and character. Am now employed as mill book-keeper, but desire to change for good reasons. Address No. 1319.

WANT position as superintendent or overseer of carding. Have had long experience as carder in large mills and can furnish lost employer as reference. Address No. 1320.

WANT position as superintendent or overseer of weaving. Held one position seven years and can give all former employers as references. Address No. 1321.

WANT position as overseer of large card room or superintendent of small mill. Now employed as carder. Am experienced on white, colored and combed yarns. Married. Age 32. Best of references. Address No. 1322.

WANT position as superintendent or overseer of either carding or spinning. Have had 12 years experience as carder and spinner and 12 years as superintendent, including several large mills. Can furnish best of references. Address No. 1323.

WANT position as superintendent. Have been superintendent of large mills and can furnish best of references both as to character and ability. Address No. 1324.

WANT position as overseer of carding. Age 35. Married. Have had 15 years experience as second hand and overseer in Eastern mills. Fine references. Address No. 1325.

WANT position as timekeeper, general office man, and outside overseer. 10 years experience as railroad agent. 2 years mill experience. Married. Good references, both as to character and ability. Address 1326.

WANT position as superintendent or overseer of weaving. Am at present employed in Eastern mill on cotton and silk goods and have charge of 2,100 looms. Experienced on lenos, fancies, box work, jacquard and Draper looms. Fine references. Address No. 1327.

WANT position as superintendent of large card room or spinning room. Am now employed. Have had long experience and can furnish the very best of references. Address No. 1328.

WANT position as overseer of carding. Have had 22 years experience in card room and am entirely competent. Can furnish best of references. Address No. 1329.

WANT position as superintendent. Now employed, but for good reasons would prefer to change. Have had long experience and can furnish best of references. Address No. 1330.

## Commonwealth Hotel

INCORPORATED

Opposite State House, Boston, Mass.



Offers rooms with hot and cold water for \$1, which includes free use of public shower baths.

NOTHING TO EQUAL THIS IN NEW ENGLAND

Rooms with private baths for \$1.50 per day; suites of two rooms and bath for \$4.00 per day.

**ABSOLUTELY FIREPROOF**

Temperance House

Send for Booklet

STORER F. CRAFTS, Gen. Mgr.

WANT position as overseer of weaving. Experienced on Draper and Stafford looms as well as fancy work. Can furnish best of references from both former and present employers. Address No. 1331.

WANT position as superintendent of small mill or overseer carding and spinning. Thoroughly practical, experienced. Can give good references. Address No. 1332.

WANT position as superintendent of weaving or yarn mill of not less than 15,000 spindles. Now employed as superintendent, but want larger mill. Fine references. Address No. 1333.

WANTED position as overseer of carding, at not less than \$2.50 per day. Am a practical carder, good manager of help, strictly sober. Have had about ten years as carder. Am now employed and giving satisfaction. Good reason for changing. Can come on reasonable notice. Address No. 1334.

WANT position as superintendent. Prefer a yarn mill. Have had long experience and can furnish the best of references from former employers. Address No. 1335.

WANT position as superintendent, or overseer of large card room. Am giving satisfaction on present job, but want larger salary. Have good education and am good manager of help. Five years experience as machinery erector. Sober. Good references. Address No. 1337.

WANT to buy a small block of stock in a medium or small size mill that can give me permanent position as superintendent, and can work out part of purchase price. Will consider new mill or reorganization proposition. Address No. 1338.



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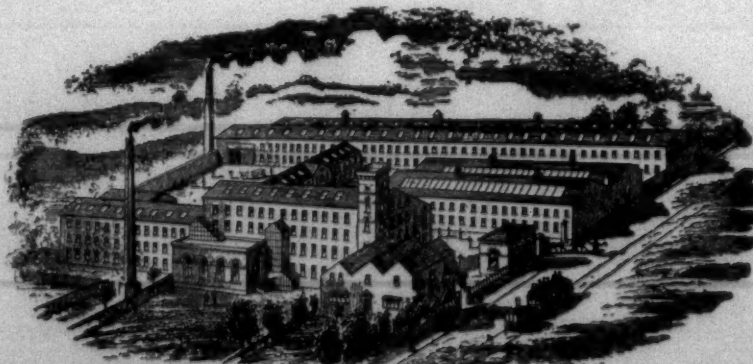
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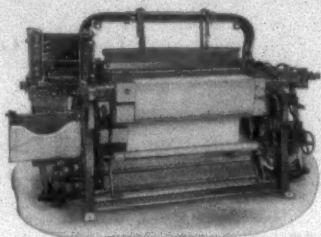
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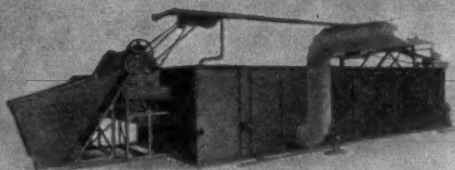
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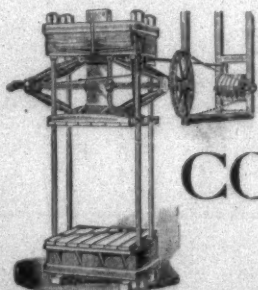
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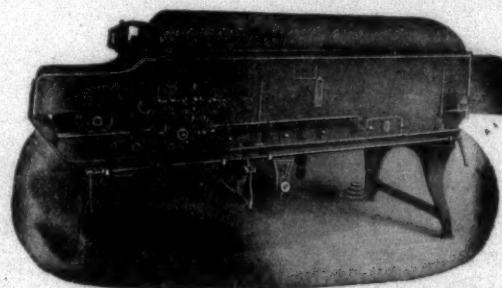
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